PREVENTING MENTAL HEALTH PROBLEMS IN CHILDREN AND ADOLESCENTS: STRENGTHENING RESILIENCE AS A POTENTIAL APPROACH

Julia Ashleigh Dray

BPsyc (Hons I; JA Keats Award)

Submitted for the degree of Doctor of Philosophy

School of Psychology,

Faculty of Science and IT,

University of Newcastle, Australia

MARCH, 2018

STATEMENT OF ORIGINALITY

I hereby certify that the work embodied in the thesis is my own work, conducted under normal supervision.

The thesis contains published scholarly work of which I am a co-author. For each such work a written statement, endorsed by the other authors, attesting to my contribution to the joint work has been included.

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University's Digital Repository, subject to the provisions of the Copyright Act 1968 and any approved embargo.

SIGNED:

Julia Dray

University of Newcastle

March 2018

STATEMENT OF AUTHORSHIP

I hereby certify that this thesis is in the form of a series of published and submitted *papers that constitute a body of work resulting from original research. This thesis adheres to the guidelines for thesis submission by publication (see Appendix 1). Included as part of the thesis is a written statement from each co-author, endorsed in writing by the Faculty Assistant Dean (Research Training), attesting to my contribution on the included joint publications (*Refer to clause 39.2 of the Rules Governing Research Higher Degrees, Appendix 1).

SIGNED:

Julia Dray

University of Newcastle

March 2018

PERMISSION REGARDING COPYRIGHT

This thesis includes published journal articles (Chapters 2 through 6). All authors and the journals where in each chapter is published are attributed in this thesis under 'List of publications included in thesis' and at commencement of each related chapter. Such chapters were published under the following Creative Commons Licenses:

Chapter 2:

Chapter 3:

ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the generous support of many.

Firstly, to all my supervisors, Prof Jenny Bowman, Dr Libby Campbell, Dr Megan Freund, and Prof John Wiggers. Thank you for sharing your years of expertise, for your continual support, for accepting my strange nick names for each of my thesis chapters and at times naive optimism towards research processes, and for teaching me to critically analyse the crap out of life. As much as I'd like to say 'I'll take it from here' I'm more than sure I'll continue to call on your generous mentorship for years to come. In particular, I'd like to give some special thanks to Jenny who took on the role of my primary supervisor. Among many things you are generous, genuine, caring, compassionate, relentless, honest, gracious, dependable, open-minded, and intelligent beyond words – I am so very grateful to have had you by my side throughout my candidature. Thanks for riding the roller coaster with me and for stopping to share the champagne moments.

To the Healthy Schools, Healthy Futures (HSHF) team, including our project managers, project officers, casual data collection staff, research assistants, administrative staff, statistical support staff, school staff, students, and school communities, and everyone involved, thank you for being the man power behind a very large research trial. Additionally, thank you to the Aboriginal Cultural Steering Group for providing Aboriginal cultural advice and direction regarding the design, implementation, evaluation and dissemination of all research trial elements for the duration of the research project, and members of the HSHF Cultural Advice Group and external Aboriginal Health reviewers for their on-going advice and review of

manuscript drafts that now form chapters of this thesis. An extra special shout out to Christophe Lecathelinais for persevering with the provision of statistical support across each of my PhD papers – I particularly enjoyed each new addition to your wall of artwork by Pascal; knowledge of all things math, finance and computer related, and; your tolerance of insulting statements regarding how superior Prosecco is to Champagne. I would also like to acknowledge the generous funding from the National Health and Medical Research Council and the nib Foundation, the in-kind support from Hunter New England Population Health, and the Hunter Institute of Mental Health, and infrastructure support from the Hunter Medical Research Institute that made this research possible. Further, my PhD Candidature was supported by the Australian Government Research Training Program (RTP), and funding from the University of Newcastle, Australia.

To the future Dr Bryant (aka Dr Grammar) you are worth your weight in gold. I will be ever grateful for your superior proofing skills, tea-making ability, generous heart, and unwavering friendship. To my other fellow PhD soldiers: Danika Tremain (and therapy puppies), Rebecca Hodder, Jacqueline Bailey, Caitlin Fehily, Tameka Small, Amanda Williams, Kate O'Brien, Lubna Abdul Razak, Emma Robson and others - and the newly appointed Dr Kate Bartlem, Dr Kathleen McElwaine, Dr Alex Metse and Dr Jannah Jones – thanks for sharing your brilliant minds, caring personalities and coping strategies, and for genuinely being there along the way. To the wider Physical Health in Mental Illness (PHiMI) research team, thanks for sharing your space, resources, and tireless leader, and for the bursts of helping hands throughout this process.

To my extended friends and family – thanks for supporting my endeavour to become Dr Dray, for showing genuine interest in my research even if at times your

questions were answered with what seemed like incoherent rambles, and for sticking around even when finding time to catch up proved quite difficult. My soccer team – the ever wonderful Frullets and Betty – thanks for the exercise on crisp Sunday mornings and mosquito ridden training nights, the love and laughs, for accepting my uniqueness especially my love for unicorns, and for being a giant cheer squad backing myself and every other team member through their chosen pathways in life. To Liz Bird, thank you for taking on the tedious task of editing my thesis, for showing genuine interest in my work along the way, and for regularly shifting your availability to work in with some fluid circumstances whilst still maintaining such a professional standard.

Now for the tearjerkers. To my parents, Colin and Jandy, thank you for encouraging me to follow my dreams, for your unconditional love, and the pride I see in your eyes for me. Nine years ago, I flew the coop from the safe and familiar bounds of your home and my small country hometown, and you told me not to look back. Two university degrees later, I am grateful you never let me quit. To my selfless, gorgeous sister Mel, thank you for supplying me with an endless stream of photos and videos of that beautiful little niece of mine, Anna, to keep me grounded along the way – what a beautiful reminder to never lose our curiosity, energy or love in life; and thanks for just being my sister. I know you'll always be by my side throughout life with the endless love, care, generosity and encouragement that you have always given me – sisters that run together stay together, 'my sister, sister'. To 'Poppy Pig', thanks for captivating me for long hours of conversations about experiences of life and love on my trips back to your farm and during our long duration, long distance phone calls, and for reminding me of just how resilient people can be.

To my husband Sean. For much of, if not all of, the length of my PhD, you have juggled the equivalent of three jobs plus completion of a Bachelor of Law and still

managed to love a Unikitty me, your petite unicorn. At times when I started to break, you helped me bend again; and when I felt like I had no more self-belief you never stopped believing in me. You took all hangry moments in your stride and showed a level of patience beyond compare. Thank you for handling many break downs and sharing many triumphs – I know you say you often don't feel like you understand, but when the nights keep me from sleeping you are my remedy – Thank you for loving me. Nothing else matters, xz.

Finally, and this may seem strange to others, but I'd like to thank myself. Thank you self for forgiving me when I pushed you close to burnout and took your health for granted, for persevering, and embracing what was at times pretty steep curves of personal and professional growth. Doubt kills more dreams than failure ever will! I look back on this journey and I am proud of me.

LIST OF PUBLICATIONS INCLUDED IN THESIS

Chapter 2: Dray, J., Bowman, J., Freund, M., Campbell, E., Hodder, R. K., Lecathelinais, C., & Wiggers, J. (2016). Mental health problems in a regional population of Australian adolescents: association with socio-demographic characteristics. *Child and Adolescent Psychiatry and Mental Health, 10*(32). doi: 10.1186/s13034-016-0120-9

Chapter 3: Dray, J., Bowman, J., Wolfenden, L., Campbell, E., Freund, M., Hodder, R., & Wiggers, J. (2015). Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting: review protocol. *Systematic Reviews, 4*(186). doi: 10.1186/s13643-015-0172-6

Chapter 4: Dray, J., Bowman, J., Campbell, E., Freund, M., Wolfenden, L., Hodder, RK., McElwaine, K., Tremain, D., Bartlem, K., Bailey, J., Small, T., Palazzi, K., Oldmeadow, C., Wiggers, J. Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting. *Journal of the American Academy of Child and Adolescent Psychiatry, 56*(10): 813-824. doi:10.1016/j.jaac.2017.07.780

Chapter 5: Dray, J., Bowman, J., Freund, M., Campbell, E., Wolfenden, L., Hodder, R. K., & Wiggers, J. (2014). Improving adolescent mental health and resilience through a resilience-based intervention in schools: study protocol for a randomised controlled trial. *Trials, 15*(289). doi: 10.1186/1745-6215-15-289

Chapter 6: Dray, J., Bowman, J., Campbell, E., Freund, M., Hodder, RK., Wolfenden, L., Richards, J., Leane, C., Green, S., Lecathelinais, C., Oldmeadow, C., Attia, J., Gillham, K., Wiggers, J. Effectiveness of a school-based universal intervention targeting student resilience protective factors on mental health problems in adolescents: a cluster-randomised controlled trial. *Journal of Adolescence*, Volume 57, June 2017, 74-89. doi.org/10.1016/j.adolescence.2017.03.009.

CO-AUTHOR STATEMENT

I attest that Research Higher Degree candidate Julia Dray has contributed to publications for which I am a co-author. For all publications, where applicable, Julia has:

- Contributed to the development of research questions

- Contributed to research design and methodology

- Contributed to the development and modification of data collection tools

- Contributed to intervention design

- Managed or participated in data collection procedures

- Overseen intervention implementation

- Cleaned the data

- Led all data analysis

- Led the writing of each manuscript

Name of co-author	Chapters co-authored	Signature of co-author	Date
Jenny Bowman	2,3,4,5,6		24.01.2017
Elizabeth Campbell	2,3,4,5,6		15.02.2017
Megan Freund	2,3,4,5,6		02.02.2017
John Wiggers	2,3,4,5,6		27.02.2017

Name of co-author	Chapters co-authored	Signature of co-author	Date
Rebecca Hodder	2,3,4,5,6		25.01.2017
Luke Wolfenden	3,4,5,6		01.02.2017
Christophe Lecathelinais	2,6		25.01.2017
Chris Oldmeadow	4,6		27.01.2017
Kathleen McElwaine	4		05.02.2017
Danika Tremain	4		25.01.2017
Kate Bartlem	4		25.01.2017
Jacqueline Bailey	4		25.01.2017
Tameka Small	4		01.02.2017
Kerrin Palazzi	4		30.01.2017

Name of co-author	Chapters co-authored	Signature of co-author	Date
Karen Gillham	6		27.02.2017
Jody Richards	6		25.01.2017
Catherine Leane	6		25.01.2017
Sue Green	6		25.01.2017
John Attia	6		07.02.2017

Signature of PhD student

Name:	Signature:	Date:
Julia Dray		06.03.2018

Signature of Assistant Dean (Research and Training) (ADRT)

Name:	Signature:	Date:
Frances Martin		07.03.2018

ADDITIONAL PUBLICATIONS AND PRESENTATIONS

Papers:

Dray J, Bowman J, Campbell E, Freund M, Hodder R, Wiggers J. A longitudinal investigation of adolescent mental health problems using matched cohort data: overall trends and gender differences. [In draft].

Hodder R, Freund M, Wolfenden L, Bowman J, Gillham K, **Dray J,** Wiggers J. Systematic review of universal school-based resilience interventions targeting adolescent tobacco, alcohol or illicit drug use: review protocol. *BMJ Open*, 2014, 4:5, DOI: 10.1136/bmjopen-2013-004718

Hodder R, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J,** Wiggers J. Association between adolescent tobacco, alcohol and illicit drug use and individual and environmental resilience protective factors. *BMJ Open*, 2016 6:11, DOI: 10.1136/bmjopen-2016-012688

Hodder R, Freund M, Wolfenden L, Bowman J, Nepal S, **Dray J,** Kingsland M, Yoong S, Wiggers J. Systematic review of universal school-based 'resilience' interventions targeting adolescent tobacco, alcohol or illicit substance use: a meta-analysis. *Preventive Medicine*, 2017, 100:248-268, DOI: 10.1016/j.ypmed.2017.04.003

Hodder R, Freund M, Bowman J, Wolfenden L, Campbell L, **Dray J,** Lecathelinais C, Wiggers J. Effectiveness of a school-based universal resilience intervention in reducing tobacco, alcohol and illicit substance use in a population of adolescents:

cluster-randomised controlled trial. *BMJ Open,* 2017;7:e016060. DOI: 10.1136/bmjopen-2017-016060

McLaren N, Williams C, Wiggers J, Campbell, L, Wolfenden, L, Hodder R, Bowman J, **Dray J**, Kepreotes E, Lord S, Kamper SJ. Increased substance use and poorer mental health in adolescents with problematic musculoskeletal pain, *Journal of Orthopaedic & Sports Physical Therapy,* 2017, 47:10, 705-71, DOI: 10.2519/jospt.2017.7441

Hodder R, Homer S, Freund M, Bowman J, Lecathelinais C, Colyvas K, Campbell E, Gillham K, **Dray J**, Wiggers J. The association between adolescent condom use and individual and environmental resilience protective factors. *Australian and New Zealand Journal of Public Health,* 2018, [Early view], DOI: 10.1111/1753-6405.12744

Hodder R, Freund M, Bowman J, Wolfenden L, Campbell L, **Dray J**, Lecathelinais, C, Oldmeadow C, Attia J, Wiggers J. Differential intervention effectiveness of a universal school-based resilience intervention in reducing adolescent substance use within student subgroups: exploratory assessment within a cluster-randomised controlled trial. *BMJ Open* [Accepted for publication 6th July 2018]

Hodder R, Campbell E, Freund M, Bowman J, Wolfenden L, **Dray J**, O'Brien K, Green S, MacDonald M, Gillham K, Wiggers J. Effectiveness of a pragmatic universally delivered school-based resilience intervention in improving adolescent physical activity, and fruit and vegetable consumption. [In draft]

Bullen C, Hodder R, Campbell E, Freund M, **Dray J,** Bowman J. Resilience to the mental health impacts of school bullying victimisation: the role of internal and external protective factors. [In draft].

Published conference abstracts:

Dray J, Freund M, Bowman J, Campbell E, Wiggers J, Wolfenden L, Hodder R, Gillham K. *Mental health and resilience in adolescence: a resilience-based intervention. International Journal of Behavioural Medicine 2014*; 21(S1): S203.

Dray J, Freund M, Bowman J, Campbell E, Hodder R, Wiggers J, Gillham K. *The mental health of adolescents: what differences exist? International Journal of Behavioural Medicine 2014*; 21(S1): S22

Dray J, Bowman J, Campbell E, Freund M, Wiggers J, Wolfenden L, Hodder R, Gillham K. *Exploring the potential of a school-based intervention in Australia on mental health problems and resilience in adolescents: a cluster randomised trial. Journal of the Canadian Academy of Child and Adolescent Psychiatry 2016;* 25(S1): O23.2 (pp. 68).

Dray J, Bowman J, Campbell E, Freund M, Wolfenden L, Hodder R, McElwaine K, Tremain D, Small T, Bartlem K, Bailey J, Wiggers J. *Systematic review of the effect of school-based, resilience-focussed interventions on child and adolescent mental health. Journal of the Canadian Academy of Child and Adolescent Psychiatry 2016;* 25(S1); O65.3. (pp. 178).

Dray J, Bowman J, Freund M, Campbell E, Hodder R, Lecathelinais C, Gillham K, Wiggers J. *Mental health problems in a regional population of Australian adolescents: association with socio-demographic characteristics. Journal of the Canadian Academy of Child and Adolescent Psychiatry 2016;* O09.4. (pp. 26).

Hodder R, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J,** Wiggers J. *Tobacco, alcohol and illicit drug use in adolescents: does resilience matter? International Journal of Behavioural Medicine 2014*; 21(S1): S153.

Hodder R, Freund M, Wolfenden L, Bowman J, Nepal S, **Dray J**, Kingsland M, Yoong S, Wiggers J. *Systematic review of universal school-based 'resilience' interventions targeting adolescent tobacco, alcohol or illicit substance use. International Journal of Behavioural Medicine 2016;* 23(S1): S82.

Hodder R, Freund M, Bowman J, Wolfenden L, Campbell E, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a school-based protective factor intervention in reducing adolescent tobacco, alcohol and illicit substance use. International Journal of Behavioural Medicine 2016;* 23(S1): S90.

Hodder R, Freund M, Bowman J, Wolfenden L, Campbell E, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a universal school-based intervention in reducing adolescent tobacco, alcohol and illicit substance use within student subgroups: exploratory assessment. International Journal of Behavioural Medicine 2016;* 23(S1): S91.

Conference presentations:

*presenting author

Dray J*, Freund M, Bowman J, Campbell E, Wiggers J, Gillham K. *The mental health and wellbeing of adolescents: what differentials exist?* Oral presentation: Public Health Association of Australia Conference, September 2013; Melbourne, Australia.

Dray J*, Freund M, Bowman J, Campbell E, Hodder R, Wiggers J, Gillham K. *The risk of mental health problems among adolescents: prevalence and socio-demographic differences.* Poster presentation: 13th International Congress of Behavioural Medicine, August 2014; Groningen, The Netherlands.

Dray J*, Freund M, Bowman J, Campbell E, Wiggers J, Wolfenden L, Hodder R, Gillham K. *Mental health and resilience in adolescence: a resilience-based intervention.* Oral presentation: 13th International Congress of Behavioural Medicine, August 2014; Groningen, The Netherlands.

Dray J*, Freund M, Bowman J, Campbell E, Wiggers J, Gillham K. *The mental health and well-being of adolescents: what differentials exist?* Oral presentation: Australian Positive Psychology and Well-being Conference, February 2014; Melbourne, Australia.

Dray J*, Freund M, Bowman J, Campbell E, Wiggers J, Wolfenden L, Hodder R, Gillham K. *Mental health and resilience in adolescence: a school-based resilience intervention.* Oral presentation: Australian Positive Psychology and Well-being Conference, February 2014; Melbourne, Australia.

Trindall S, O'Brien K, Freund M, Campbell E, Gillham K, Hodder R*, **Dray J**, Tully B, Wiggers J. *Resilience in Australian Aboriginal secondary school students.* Poster presentation: 22nd Australian Health Promotion Association and 18th Chronic Disease Network, September 2014; Alice Springs, Australia.

Hodder R*, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J**, Wiggers J. *Tobacco, alcohol and illicit drug use in adolescents from disadvantaged areas: does*

resilience matter? Oral presentation: 22nd Australian Health Promotion Association and 18th Chronic Disease Network, September 2014; Alice Springs, Australia.

Hodder R*, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J**, Wiggers J. *Tobacco, alcohol and illicit drug use in adolescents: does resilience matter?* Oral presentation: 13th International Congress of Behavioural Medicine, August 2014; Groningen, The Netherlands.

Dray J, Freund M, Bowman J*, Campbell E, Hodder R, Wiggers J, Gillham K. *The mental health of adolescents: what differentials exist?* Oral presentation: Australasian Society for Behavioural Health and Medicine 12th Annual Scientific Meeting, February 2015; Perth, Australia.

Dray J, Freund M, Bowman J, Campbell E, Wiggers J*, Wolfenden L, Hodder R, Gillham K. *Mental Health and Resilience in Adolescence: exploring the potential of a resilience-based intervention in schools*. Oral presentation: Australasian Society for Behavioural Health and Medicine 12th Annual Scientific Meeting, February 2015; Perth, Australia.

Dray J, Freund M, Bowman J, Campbell E, Wiggers J, Wolfenden L, Hodder R, Gillham K. *A school-based resilience intervention in Australia: intervention efficacy in relation to fostering internal and external resilience factors and mental health in adolescents.* Oral presentation (accepted, not presented): Pathways to Resilience III: Beyond nature vs. nurture! June 2015; Halifax, Canada.

Dray J, Freund M, Bowman J, Campbell E, Wiggers J, Wolfenden L, Hodder R, Gillham K. *A school-based resilience intervention in Australia: exploring the relationship between resilience and risk of mental health problems.* Poster

presentation (accepted, not presented): Pathways to Resilience III: Beyond nature vs. nurture! June 2015; Halifax, Canada.

Hodder R*, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J,** Wiggers J. *Adolescent tobacco, alcohol and illicit drug use: does resilience matter?* Oral presentation: Population Health Congress, September 2015; Hobart, Australia.

Hodder R, Freund M, Bowman J, Wolfenden L, **Dray J**, Kingsland M, Yoong S, Eftekhari P, Wiggers J. *Are universal school-based resilience interventions targeting adolescent substance use effective? Results of a systematic review.* Poster presentation: Pathways to Resilience III: Beyond nature vs. nurture! June 2015; Halifax, Canada (accepted, not presented).

Hodder R, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J**, Wiggers J. *The potential of resilience in substance use prevention: a resilience factor profile of Australian adolescents and associations with tobacco, alcohol and illicit substance use.* Oral presentation: Pathways to Resilience III: Beyond nature vs. nurture! June 2015; Halifax, Canada (accepted, not presented).

Hodder R*, Freund M, Bowman J, Wolfenden L, Gillham K, **Dray J**, Wiggers J. *Tobacco, alcohol and illicit drug use in adolescents: does resilience matter?* Oral presentation: Australasian Society for Behavioural Health and Medicine. 12th Annual Scientific Meeting, February 2015; Perth, Australia.

Hodder R*, Freund M, Wolfenden L, Bowman J, Nepal S, **Dray J**, Kingsland M, Yoong S, Wiggers J. *Systematic review of universal school-based 'resilience' interventions targeting adolescent tobacco, alcohol or illicit substance use.* Oral

presentation: The 14th International Congress of Behavioural Medicine, December 2016; Melbourne, Australia.

Hodder R*, Freund M, Bowman J, Campbell E, Wolfenden L, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a school-based universal protective factor intervention in reducing tobacco, alcohol and illicit substance use in a population of adolescents: cluster-randomised controlled trial.* Poster presentation: The 14th International Congress of Behavioural Medicine, December 2016; Melbourne, Australia.

Hodder R*, Freund M, Bowman J, Campbell E, Wolfenden L, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a universal school-based intervention in reducing tobacco, alcohol and illicit substance use within student subgroups: exploratory assessment.* Poster presentation: The 14th International Congress of Behavioural Medicine, December 2016; Melbourne, Australia.

Hodder R, Freund M, Bowman J, Wolfenden L, Campbell E, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a school-based universal protective factor intervention in reducing tobacco, alcohol and illicit substance use in a population of adolescents: cluster-randomised controlled trial.* Oral presentation: 23rd National Conference of the Australian Health Promotion Association (accepted, not presented), June 2016; Perth, Australia.

Hodder R, Freund M, Wolfenden L, Bowman J, Nepal S, **Dray J**, Kingsland M, Yoong S, Wiggers J. *Are universal school-based protective factor interventions effective in reducing adolescent tobacco, alcohol and illicit substance use: results from a systematic review.* Oral presentation: 23rd National Conference of

the Australian Health Promotion Association (accepted, not presented), June 2016; Perth, Australia.

Hodder R*, Freund M, Bowman J, Wolfenden L, Campbell E, **Dray J**, Lecathelinais C, Oldmeadow C, Attia J, Wiggers J. *Effectiveness of a school-based universal protective factor intervention in reducing alcohol use in a population of adolescents: cluster-randomised controlled trial.* Oral presentation: 42nd Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society, May 2016; Stockholm, Sweden.

Hodder R*, Freund M, Wolfenden L, Bowman J, Nepal S, **Dray J**, Kingsland M, Yoong S, Wiggers J. *Are universal school-based protective factor interventions effective in reducing adolescent alcohol use: results from a systematic review.* Oral presentation: 42nd Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society, May 2016; Stockholm, Sweden.

Dray J*, Bowman J, Campbell E, Freund M, Hodder R, Wolfenden L, Richards J, Leane C, Green S, Lecathelinais C, Oldmeadow C, Attia J, Gillham, K, Wiggers J. *Effects of a school-based, universal, resilience-focussed intervention on student mental health problems and protective factors.* Oral presentation: 4th International Association for Youth Mental Health Conference, September 2017; Dublin, Ireland

AWARDS

Australian Government Research Training Program Scholarship (formerly Australian Postgraduate Award), 2013-2017

Priority Research Centre for Health Behaviour Small Grant (2017)

Donald J Cohen Conference Fellow, 22nd International Association for Child and Adolescent Psychiatry World Congress, Calgary, Canada (2016)

Faculty of Science and IT Research Higher Degree International Conference Scholarship (2016)

Priority Research Centre for Health Behaviour Small Grant (2016)

Three-Minute Thesis University of Newcastle Finalist (2015)

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION: MENTAL HEALTH AND RESILIENCE IN CHILDREN AND ADOLESCENTS

CHAPTER 2: MENTAL HEALTH PROBLEMS IN A REGIONAL POPULATION OF AUSTRALIAN ADOLESCENTS: ASSOCIATION WITH SOCIO-DEMOGRAPHIC CHARACTERISTICS

CHAPTER 3: SYSTEMATIC REVIEW OF UNIVERSAL RESILIENCE INTERVENTIONS TARGETING CHILD AND ADOLESCENT MENTAL HEALTH IN THE SCHOOL SETTING: REVIEW PROTOCOL

CHAPTER 4: ADDITIONAL APPENDICES

CHAPTER 5: IMPROVING ADOLESCENT MENTAL HEALTH AND RESILIENCE THROUGH A RESILIENCE-BASED INTERVENTION IN

SCHOOLS: STUDY PROTOCOL FOR A RANDOMISED CONTROLLED TRIAL

CHAPTER 6: EFFECTIVENESS OF A SCHOOL-BASED UNIVERSAL INTERVENTION TARGETING STUDENT RESILIENCE PROTECTIVE FACTORS IN REDUCING MENTAL HEALTH PROBLEMS IN ADOLESCENTS

CHAPTER 7: SUMMARY OF KEY FINDINGS AND IMPLICATIONS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 4: SYSTEMATIC REVIEW OF UNIVERSAL RESILIENCE INTERVENTIONS TARGETING CHILD AND ADOLESCENT MENTAL HEALTH IN THE SCHOOL SETTING

CHAPTER 4: ADDITIONAL APPENDICES

CHAPTER 5: IMPROVING ADOLESCENT MENTAL HEALTH AND RESILIENCE THROUGH A RESILIENCE-BASED INTERVENTION IN SCHOOLS: STUDY PROTOCOL FOR A RANDOMISED CONTROLLED TRIAL

CHAPTER 6: EFFECTIVENESS OF A SCHOOL-BASED UNIVERSAL INTERVENTION TARGETING STUDENT RESILIENCE PROTECTIVE FACTORS IN REDUCING MENTAL HEALTH PROBLEMS IN ADOLESCENT

LIST OF APPENDICES

CHILD AND ADOLESCENT

MENTAL HEALTH:

RESILIENCE AS A POTENTIAL

APPROACH

ABSTRACT

Mental health problems are estimated to affect 10-20% of children and adolescents worldwide, often continue into adult years, and contribute to considerable economic, social, and community burden. Prevention of mental health problems in children and adolescents has been identified as an international public health priority. Comprehensive, population level prevalence data and effective interventions are necessary for the prevention of mental health problems in children and adolescents. This thesis addressed three related aims.

Population level data regarding the general mental health status and the socio-demographic factors associated with the mental health status of adolescents in Australia aged 12–16 years was limited at the time the studies were being planned. Aim one was to examine prevalence of four mental health problems and association with five socio-demographic characteristics in a regional sample of Australian adolescents (Chapter 2). Data on mental health outcomes measured by the Strengths and Difficulties Questionnaire (SDQ) was obtained from a survey of almost 7,000 Australian adolescents aged 12-16 years conducted in 2011 as baseline data collection for a cluster randomised controlled trial. The study region was characterised by a low index of socio-economic status and a high proportion of Aboriginal students relative to the state of New South Wales (NSW) and Australia overall. Key findings included: 19% of students with a Total SDQ score in the 'very high' range; a significant association of gender with all outcomes (total difficulties and internalising problems higher for girls and a significant interaction with age resulting in greatest mean difference between females and males at age 15, and externalising problems and prosocial behaviour problems higher for boys), and; no significant associations of either socio-economic status or geographic location of residence with any outcomes. Aboriginal students, who

composed 11% of the sample, scored higher for mental health problems across all four

outcomes as compared to non-Aboriginal students.

Resilience - often referred to as the ability to maintain or return to a positive

state of mental health by employing multiple internal or external protective factors - has

been proposed as a potential approach for interventions to prevent or reduce mental

health problems in children and adolescents. Universal interventions represent one

approach to doing so that aligns with international objectives supporting mental health

across all people and are commonly adopted within community-based settings (e.g.

schools). Universal, school-based interventions that target the strengthening of

protective factors central to the concept of resilience have been evaluated within many

studies internationally. However, the evidence relating to such an approach had not been

comprehensively quantitatively synthesised. Aim two was to quantitatively synthesise

the international evidence-base for the effectiveness of universal, school-based,

resilience-focussed interventions on mental health problems in children and adolescents

(Chapters 3 and 4). A systematic review with meta-analysis was conducted, and

included 57 trials of participants aged 5-18 years. Key findings, based on child and

adolescent trials combined, indicated resilience-focussed interventions to be effective

relative to a control in reducing four of seven mental health problem outcomes:

depressive symptoms, internalising problems, externalising problems, and general

psychological distress (but not anxiety symptoms, hyperactivity and conduct problems).

Effects of intervention were found to vary by age, length of follow-up, and therapeutic

basis (cognitive behavioural therapy [CBT]-based vs. non-CBT-based). Some

methodological limitations of the included trials were noted.

The large majority of trials that have assessed the effect of universal, school-

based, resilience-focussed interventions on mental health outcomes in children and

adolescents have measured intervention effect on internalising problems including anxiety and depression, with fewer trials measuring effect on externalising problems and total difficulties. Additionally, past trials have most commonly tested the effect of a manualised program delivered within the school curriculum, without the utilisation of broader capacity building opportunities provided by the school environment and in keeping with a Health Promoting Schools approach. Relatively few trials have adopted a pragmatic approach, providing flexibility for participants to select programs to implement which best meet their needs and arguably representing a test of an intervention under somewhat 'real world conditions'. Aim three was to develop and evaluate the effect of a pragmatic, universal, resilience-focussed intervention in secondary schools on total difficulties, internalising problems, externalising problems, and prosocial behaviour problems, and student internal and external protective factors (Chapters 5 and 6). A cluster randomised controlled trial was conducted in 32 secondary schools (20 intervention, 12 control), with data collected from students in Grade 7 at baseline (2011; n=3115), and Grade 10 at immediate post-intervention follow-up (2014, n=2149; enrolments in Grades 7 to 10 typically aged 12-16 years; 50% male; 69.0% retention). The intervention was implemented during Grades 8 to 10 (2012-2014) and consisted of a framework of sixteen broad intervention strategies targeting internal and external resilience protective factors across the three Health Promoting Schools domains. Schools were asked to implement sixteen broad intervention strategies however, in line with a pragmatic approach, schools were given the flexibility to select the specific programs or resources to do so, and the order and manner in which these were implemented within each intervention school varied. To assist schools to achieve this, a list of programs and curriculum resources targeting resilience protective factors and recommended to promote mental health in children and adolescents was provided.

Key findings included no significant intervention effect for four mental health outcomes measured utilising the SDQ (total difficulties, internalising problems, externalising problems, and prosocial behaviour problems), nor for internal and external protective factors measured utilising the Resilience and Youth Development Module of the California Healthy Kids Survey. A number of possible explanatory factors pertaining to the null results of the trial were considered, including: that the pragmatic approach may have resulted in inconsistent strategy implementation across intervention schools, and; process data suggesting that strategies for supporting positive mental health and resilience may similarly have been a focus in control schools due to contextual changes in policy and practice across the broader school system of NSW, Australia, during the time of the trial.

Supported by the research reported in this thesis, a number of needs for ongoing research were identified relating to: measurement and monitoring prevalence of mental health problems in children and adolescents; enhancing understanding of how resilience protective factors relate to mental health problems in children and adolescents, and; considerations for the conduct of future intervention trials.

INTRODUCTION: MENTAL HEALTH AND RESILIENCE IN CHILDREN AND ADOLESCENTS

CHAPTER 1

Introduction

1. Chapter Purpose and Structure

This chapter outlines research relating to the mental health of children and adolescents and the potential for the concept of 'resilience' to inform preventive interventions to improve the mental health of this group. The burden and prevalence of mental health problems are briefly outlined. The remainder of the chapter then overviews research pertaining to: the need to develop effective interventions for the prevention of mental health problems in children and adolescents; risk and protective factors related to mental health problems in children and adolescents; the concept of resilience and its relevance to factors protective of child and adolescent mental health, and finally; existing evidence regarding the effectiveness of resilience-focussed interventions on improving the mental health of children and adolescents. To conclude, the aims and structure of the thesis are presented.

2. Mental health, illness, disorder and problems

The World Health Organization (WHO) defines mental health as 'a state of complete physical, mental and social well-being', involving 'not merely the absence of disease', but also encompassing the prevention and treatment of mental disorders, rehabilitation of individuals experiencing mental ill-health, and the overall promotion of well-being [1]. Conversely, 'mental illness' is broadly defined as a collection of disorders which manifest as significant dysregulation of characteristics related to mental functioning such as cognitions, mood, or behaviours [2]. Mental disorders comprise a broad range of conditions which include: depressive; anxiety; mood; neurodevelopmental; developmental; personality; substance use; trauma- and stress-related; conduct, and;

other disorders [2]. They can occur with varying severity and are usually associated with significant distress or impairment across multiple domains of life (e.g. social and occupational) [2]. 'Mental health problems' represents a broader consideration of mental ill-health as extended symptoms that may not reach the level of a diagnosed mental illness, however significantly impact a person's cognitive, affective, and social capabilities [3]. In the remainder of this thesis, the terms 'mental health', 'mental disorders', 'mental illness' and 'mental health problems' are used. At all times, the terms utilised correspond to those used in the original source references.

3. Mental health problems

3.1 Global burden and prevalence

Worldwide, five mental disorders (depression, alcohol misuse, bipolar affective disorder, schizophrenia, and obsessive compulsive disorder) represent half of the ten leading causes of disability and premature death [4, 5]. As part of the WHO Global Burden of Disease (WHO-GBD) studies, data were collected from 187 countries, across 21 world regions from 1990-2010, and aggregated to enable systematic assessment of the global burden of disease and injury [6]. In the context of the WHO-GBD studies, disability is considered 'any short or long-term health loss, other than death' [6]. The disability adjusted life years (DALYs) reported as a result of such studies are based on a complex and comprehensive consideration of conditions developed as a consequence of disease and injury, whereby the related years of healthy life lost due to disability (YLD) and years of life lost due to premature mortality (YLL) are calculated and summed [7]. Based on such data, in 2010 mental disorders were estimated to account for 7.4% of all DALYs lost due to all disease and injuries for all people (0 years and up) worldwide [8],

with this burden projected to account for 15% by 2020 [4, 5, 9]. In relation to mental disorders, the morbidity component of DALYs is large relative to the mortality component, as many mental disorders have an early age of onset (12-24 years), and persist into later periods of life [10, 11]. The impacts of such disorders include: emotional distress; trauma; lower educational achievements; higher rates of self-harm and suicide; higher likelihood of engagement in health risk behaviours (such as drug and alcohol use or tobacco smoking), and; greater number of medical diagnoses [10, 12-16].

A number of further economic, social, and community costs are related to mental health problems including: loss of well-being and quality of life; loss of employment and productivity; increased rates of homelessness and incarceration; premature mortality; along with other harder to measure costs such as stigma, marginalisation and discrimination [4, 9, 17]. In 2010, the global combined direct (e.g. diagnosis, treatment and care) and indirect (e.g. loss of income due to disability) cost of mental illness was estimated to be USD$2.5 trillion dollars [18]; with this cost projected to increase to USD$6 trillion within the next two decades [18].

From 2001 to 2003, the World Mental Health Survey (WMHS) Initiative of the WHO was instituted to obtain epidemiological data regarding the prevalence of mental disorders across twenty-eight participating countries [19, 20]. Data collected from surveys completed in the first seventeen countries across Africa, Asia, the Americas, Europe and the Middle East indicated mental disorders commonly occurred [19, 20]. Lifetime prevalence of mental disorders in adults (≥18 years) in each country, as measured by the WHO World Mental Health Composite International Diagnostic Interview (WMH-CIDI) ranged between 18.1% to 36.1% (comprised of four core diagnoses: anxiety, mood, externalising and substance use disorders) [19, 20]. Anxiety

disorders (14.3%) were reported to have the highest median lifetime prevalence, followed by mood disorders (10.6%) [19, 20].

3.2 Burden and prevalence in Australia

In 2011, the Australian Bureau of Disease Study reported mental disorders to be among the top five disease groups contributing to the total burden of disease (across all ages) [21]. The study adopted methodology utilised by the WHO to produce DALY estimates relating to the global burden of disease, and indicated mental disorders accounted for 12.1% of DALYs lost due to all disease and injuries in Australia and increasing by 13% from 2003 to 2011 (480,700 to 542,600 DALYs respectively) [21].

From 2010-2011 the total direct expenditure of supporting people with a mental illness was estimated at AUD$28.6 billion [22]. This figure was calculated based on health expenditure (e.g. mental health services and medication; AUD$13.8 billion) and non-health expenditure (e.g. income or carer support payments, and housing and employment programs; AUD$14.8 billion) [22], however did not include indirect costs which constitute broader individual, social, and economic costs of mental illness such as loss of productivity and disability, or capital expenditure - money spent by other businesses and organisations [22]. In 2014, the cost of absenteeism, reduced productivity, and compensation claims (number of claims annually by average cost of claims) due to mental health problems were estimated to cost the Australian work place AUD$11 billion, equating to almost 2.6 million days of lost productivity in one year [23]; with the total cost of the burden of serious mental illness in Australia estimated to be AUD$98.8 billion [24].

In Australia, the lifetime prevalence of mental health problems in adults is reported to be higher than the adult global summary estimates. In 2007, the most recent

Australian National Survey of Mental Health and Wellbeing (NSMHWB), undertaken

with a random sample of adults aged 16-85 years, indicated lifetime prevalence of any

mental disorders, measured by the WMH–CIDI, to be 45.5% [25]. Similar to

international findings, the highest lifetime prevalence was reported for anxiety disorder

(26.3%), however the next most prevalent were substance use disorders (24.7%),

followed by mood disorders (15.0%) [25]. A number of possible explanations may

account for differences between the Australian figures as compared to the global WHO-

WMHS figures. For instance, whilst both studies utilised the WMH-CIDI, the age range

between such surveys varied (NSMHWB: 16-85 years; WHO-WMHS: ≥18 years), as

did the period for data collection (NSMHWB: 2007; WHO-WMHS: 2001-2003) [19,

20, 25]. Cross-national variation in age-of-onset for some mental health problems

means that age of sample may influence when prevalence is detected and provides some

support for higher prevalence in younger compared to older cohorts, and thus suggests

potential for recency of data collection to influence prevalence estimates [20].

Additionally, specifically in relation to differences in the prevalence of substance use

disorders, noted for the WHO-WMHS, methodological differences across countries in

the manner in which substance abuse and dependence is measured, including

differences in the type of substances measured (with or without assessment of illicit

substances) makes accurate cross-country comparisons difficult.

4. Mental health problems in children and adolescents

4.1 Global burden and prevalence

Based on data from 226 low-, middle-, and high-income countries, the WHO-GBD

study in 2001 estimated mental disorders to account for 15-30% of DALYs in the first

three decades of life [7]. Types of disability noted as associated with mental health problems in children and adolescents and often persisting long term include: loss of productivity and contribution to the community; lower academic achievement; loss of well-being and quality of life; poor reproductive and sexual health; higher likelihood of engagement in health risk behaviours, and; higher rates of self-harm and suicide [10, 12, 26]. A national inquiry into self-harm among young people (11-25 years) in the UK indicated between 1 in 12 and 1 in 15 intentionally self-harm [27], with 12 years being the average age of onset and evidence suggesting emotional or mental distress to be the underlying reason of the self-harm [27].

There is limited evidence regarding the economic burden of child and adolescent mental health problems. A systematic review to investigate the evidence relating to the economic burden of such problems in Europe from 2002-2007 included eight studies, with all but one conducted in the United Kingdom [28]. Included studies were inconsistent in terms of costs examined, data collection methods, disorders, and age ranges examined (varying portions of the age range of 3-18 years) [28]. Costs examined included a range of care costs (treatment and services, including care giving costs), productivity costs (reduced learning capacity, and future disability or income loss), and other costs (stigma, treatment side effects, carer burden, distress, social exclusion), with estimates of mean annual cost per child ranging from EUR$7,376 to EUR$64,703 [28].

International literature indicates a wide range of mental health problems to be experienced by children and adolescents including internalising and externalising problems [29-36]. The term internalising problems has been used to collectively describe emotional disorders (such as depression and anxiety, and other mood disorders), and externalising problems used to describe disorders characterised by behavioural and social adaptation problems (such as attention deficit hyperactivity

disorder, and disruptive behaviour disorders including conduct disorder and

oppositional defiant disorder) [37, 38]. A review (meta-analysis) of 41 epidemiological

studies conducted in 27 countries representing North America, Europe, Asia, Africa,

South America and the Caribbean, the Middle East and Oceania, from 1985 to 2012,

found the global pooled estimate of mental disorders in children and adolescents (0-18

years) to be 13.4% [31]. The highest prevalence was found for anxiety disorders (6.5%),

followed by disruptive behavioural disorders (5.7%), attention deficit hyperactivity

disorders (ADHD; 3.4%), and depressive disorders (2.6%) [31].

The mental disorders indicated to be most prevalent in children and adolescents

have varied across other large scale, general population surveys internationally. A 2009

report on the standard of child and adolescent mental health policies, practises and data

across 15 European countries found that on average 1 in 5 children and adolescents

experience developmental, behavioural, or emotional problems, however prevalence

varied by country and mental health problem [30]. In the United States of America, the

National Comorbidity Survey Adolescent Supplement (NCS-A; 2001-2004) - the first

US National survey to assess a wide range of mental disorders in adolescents (13-17

years) - utilised a modified version of the WHO-CIDI, and found anxiety disorders to

have the highest lifetime prevalence (31.9%), followed by behaviour disorders (ADHD,

oppositional defiant disorder and conduct disorder; 19.1%), mood disorders (14.3%),

and substance use disorders (11.4%) [34]. In the United Kingdom, the most recent

National Survey of Mental Health in Children and Adolescents (5-16 years; undertaken

in 2004) utilised a battery of tools including the Strengths and Difficulties Survey

(SDQ), the Rutter Scales, the Child Behaviour Checklist (CBCL), and the Development

And Well-Being Assessment (DAWBA) [39]. Based on the DAWBA tool, the highest

prevalence was indicated for conduct problems (oppositional defiant disorder and

conduct disorders; 5.8%), followed by anxiety disorders (3.7%), depression (1.1%), and

ADHD (0.4%) [39]. Difference in prevalence estimates across such large-scale

population surveys are likely to be influenced by factors such as age range of samples

and years of data collection (discussed in more detail above), variation in country

characteristics, measurement instruments utilised, and reported summary metric (e.g.

lifetime prevalence – at any time in their life; or period prevalence – prevalence within a

specified time frame such as past 4 weeks or 12 months) [30, 40]. For example,

prevalence estimates in developed countries have been noted as potentially more

accurate than estimates in under-developed countries [19], and use of different

measurement tools and summary metrics prevents the reporting of common summary

statistics to enable more accurate cross-national comparisons [30].

4.2 Burden and prevalence in Australia

In 2009, the DALYs associated with mental health problems in young

Australians aged 15-24 years was estimated to equate to 105,394 [26]. The Australian

report [26] adopted methods for calculating DALYs developed through the WHO-GBD

studies [5, 6, 41]. In 2009, the total economic impact of mental health problems in youth

(12-25 years) - comprised of both direct (e.g. health system expenditure) and indirect

(e.g. loss of productivity and employment, premature death, informal carer costs)

financial costs - was estimated at $10.6 billion [26]. The value of loss of well-being

associated with such problems was estimated to be a further $20.5 billion [26]. The

2011 Australian Burden of Disease Study noted mental and substance disorders as the

largest contributor to burden of disease for late childhood, adolescence, and young

adulthood (peaking at age 25-29) [21]. In 2015, suicide was the leading cause of death

of children and adolescents aged 5-17 years in Australia [42].

The most recent administration of the Child and Adolescent Component of the NSMHWB in Australia [43] (2013-2014) indicated the prevalence of psychological distress in young people (4-17 years), as measured by the Kessler 10 (K10) and scores in the 'abnormal' range on the SDQ, to be 10.2% and 13.3% respectively [44, 45]. Additionally, the Diagnostic Interview Schedule for Children Version IV (DISC-IV) was employed to measure 12-month prevalence of specific mental disorders with highest prevalence found for ADHD (7.4%), followed by anxiety disorders (6.9%), major depressive disorder (2.8%), and conduct disorders (2.1%) [44]. Prior to the Young Mind Matters Survey in 2013-2014, a national survey on child and adolescent mental health had not been conducted in Australia since 1998 [43], and, at the time of planning the studies in this thesis, recent population level data on the general mental health status of 12-16 year olds in Australia was noted as limited [46].

4.3 Trends in overall prevalence in recent decades

Worldwide, evidence in regards to whether prevalence of mental health problems in children and adolescents has changed in recent decades is inconsistent [40, 47]. The assessment of global prevalence trends in the mental health of children and adolescents is difficult due to many differences in study characteristics [40], and data from global estimate studies such as the WHO-MHS [20] commonly only representing adult samples aged 18 years and over. Studies in a number of countries suggest an increase in prevalence of mental health problems in children and adolescents. For example, a study conducted in the United States found the percentage of adolescents aged 12-17 years self-reporting between 14 to 30 mentally unwell days in the past 30 days almost doubled from 2003-4 to 2009-10 [48]. In the United Kingdom, a review utilising data from general population samples of adolescents aged 15-16 years from 1974 to 1999 found an increase in prevalence of conduct, hyperactivity, and emotional problems

(6.8% to 14.9%; 8.9% to 12%, and; 10.2% to 16.9% respectively) [49]. However, more recently in the United Kingdom, a comparison of results from the 1999 and 2004 National Surveys of Mental Health in Children and Adolescents indicated small but not statistically significant changes in prevalence of common disorders (emotional disorders: 4.3% to 3.5%; conduct disorders: 5.3% to 5.9%; and hyperkinetic disorder: 1.4% to 1.5%) and prevalence of 'any disorder' (9.5% compared to 9.6%) in children and adolescents aged 5-15 years [39]. Similarly, in Germany, a recent survey of guardians of children and adolescents aged 3-17 years indicated no significant change in prevalence of mental health problems from the period 2003-06, to the period 2009-12 (20.2% and 20.0%, respectively) [50].

In Australia, between the 1998 and 2013-2014 administrations of the Child and Adolescent Survey of Mental Health and Wellbeing in children and adolescents aged 6-17 years, small significant changes in prevalence were reported including an increase in prevalence of major depressive disorder (2.1% to 3.2%), and a decrease in prevalence of conduct disorder (2.7% to 2.1%) and attention deficit hyperactivity disorder (9.8% to 7.8%) [45]. Similarly, the national Mission Australia Youth Survey assessed the prevalence of probable serious mental illness in adolescents aged 15-17 years to have significantly increased from 18.2% to 20% from 2012 to 2014 [51]. This increase in prevalence was largely attributed to an increase in prevalence for females (23.2% to 26.5%) rather than males (13.4% to 13.9%) [51].

The comparisons described above for each national survey are based on data obtained using the same survey instrument at each data collection point [39, 45, 50, 51], however instruments used across each country varied. Comparison between studies is limited by differences in methodology and design including measurement tools, age ranges, country characteristics, recency of data, and mental health problems assessed

[30, 40]. Interpretation of changes in prevalence is further complicated by suggested improvements in mental health awareness, understanding, and reporting [40, 47, 52]. These improvements have reduced stigma and therefore increased willingness of informants to seek help for and/or report mental health problems in recent decades [40, 47, 52]. Consequently, challenges exist in determining whether changes in prevalence are due to increased contact with treatment or disclosure of existing mental health problems, or due to true increases in underlying cases of mental health problems [49].

4.4 Differences in prevalence by socio-demographic factors

The prevalence of some mental disorders in children and adolescents has been found to vary by a number of socio-demographic factors, with commonly investigated factors including gender [39, 45, 53, 54], socio-economic status [39, 46, 54, 55], and age [39, 45, 53, 54]. In a review of epidemiological data relating to self-reported mental health problems in adolescents across 24 countries, Rescorla et al., (2007) found considerable consistency across countries in gender differences. The prevalence of total problems and internalising problems were higher among girls and, in particular, girls consistently scored higher than boys in 21 of 24 countries for anxiety and depressive symptoms [56]. In contrast, the prevalence of externalising problems was higher among boys and, in particular, boys consistently scored higher than girls in 17 of 24 countries for conduct problems [56]. Results of other large-scale, general population surveys of children and adolescents, internationally [57] and in Australia [45, 58], support such findings.

In a systematic review of studies examining socio-economic disparities in children and adolescents aged 4-18 years, 52 of 55 included studies indicated an inverse relationship between socio-economic status and mental health problems (aggregate)

[37]. The included studies were conducted across twenty-three countries, with the

majority conducted in North America, Europe and Australia [37]. Further findings

included a significant association between prolonged experience of low socio-economic

status and onset of mental health problems, and a significant association between

improvement to socio-economic status over time and reduced mental health problems

[37]. National surveys in the United Kingdom [39] and United States [54] have

indicated significant differences in prevalence of mental health problems in children and

adolescents by socio-economic status. In Australia, neither the reports of the 1998 [43]

nor the 2013-2014 [45] administrations of the Child and Adolescent Survey of Mental

Health and Wellbeing noted examining mental health problems by socio-economic

status, however in contrast to international findings, other Australian studies have

reported no difference in mental health problems by socio-economic status [46, 55].

Findings with respect to prevalence by age are largely consistent across

countries and generally suggest a higher prevalence for adolescents compared to

children. Adolescence, commonly defined as the second decade of life (10-19 years)

[59], is a time of transition characterised by extensive physical and social development

during which stressors of varying severities can occur [60, 61], and capabilities vital for

progression into adulthood are established [62]. Additionally, adolescence spans the age

range of onset (12-24 years) for most disorders that are likely to persist into adulthood

[10, 11]. In the United States, data obtained from the National Health Interview Survey

(NHIS; 2001-2007) indicated higher prevalence of mental health problems for older

children and adolescents aged 8-17 years compared to those aged 4-7 years (4-7 years:

1.7%; 8-10 years: 2.0%; 11-14 years: 2.6%; and 15-17 years 2.6%) [54]. Similarly, in

the United Kingdom, results of the 2004 National Survey of Mental Health of Children

and Young People indicated prevalence of a clinically diagnosed mental disorder to be

higher in adolescents aged 11-16 years compared to children aged 5-10 years (11.5% and 7.7%, respectively) [39]. In Australia, the Young Mind Matters national survey (2013-2014) indicated prevalence of 'very high' levels of psychological distress to be higher amongst older adolescents aged 16-17 years compared to younger adolescents aged 11-15 years (11% and 4.8% respectively) [45]. Another national survey, the Mission Australia Youth Survey (2013), conducted with a sample of adolescents aged 15-19 years, noted a high prevalence of probable serious mental illness in this age group and very little variation in such prevalence between 15 and 19 year olds (21.5% and 19.4% respectively) [53]. Together, such findings may suggest that prevalence in mental health problems generally increases from early in childhood into adolescence, and remains high during adolescence.

Other less commonly examined factors in international epidemiological studies of child and adolescent mental health include ethnicity [39, 54], race [54], language [54], type of health insurance [54], family type [54], and rurality [55, 63]. In addition, relatively little research has examined mental health difficulties by Aboriginality internationally [64] or in Australia [65]. For example, in Australia, since the year 2000, only one national survey (undertaken in 2013-2014) has examined prevalence of mental health difficulties in adolescents aged 15-19 years by Aboriginality, indicating higher prevalence of probable serious mental illness for Aboriginal adolescents compared to non-Aboriginal adolescents (31.8% and 20.7%, respectively) [53]. The most recent national survey, the Young Mind Matters survey (2013-2014), was unable to examine difference in prevalence by Aboriginality due to an insufficient sample size [45]. Similarly, at the time of planning studies in the thesis, limited previous research had investigated the association between remoteness of residential location and mental

health problems in children and adolescents in Australia, with only one Victorian study examining the relationship and indicating no significant association [55].

5. Prevention of mental health problems in children and adolescents

Due to the burden and prevalence identified above, the prevention of mental health problems among children and adolescents has been identified as an international public health priority [10, 59, 66, 67]. A key objective of the WHO Comprehensive Mental Health Action Plan (2013-2020) - is 'to implement strategies for promotion and prevention in mental health'[68], with a particular focus on early life stages due to the onset of up to 50% of adult mental disorders prior to age 14 [68].

Efforts to prevent the development of mental health problems among children and adolescents have largely focussed on reducing a wide range of 'risk factors', and/or enhancing an equally wide range of 'protective factors'[4]. The WHO refers collectively to such factors as *determinants* that can be individual, family-related, social, economic, and environmental in nature [4]. Such factors have been shown in cross-sectional and longitudinal studies to either increase the probability of onset [69-73], severity [14, 72], and duration of mental health problems [72], or aid in an individual's resistance to such problems [74-77]. Specific factors suggested to increase likelihood of the development of mental health problems include: social isolation; academic pressures; low self-esteem and poor body image [27, 69]; health risk behaviours such as drug and alcohol use [21, 70, 78], and; adverse childhood events (0-18 years) such as maltreatment, neglect, interpersonal loss, emotional, sexual and/or physical abuse, and parental maladjustment (including parent history of mental illness, violence and substance abuse) [14, 21, 71-73, 79]. Conversely, a broad range of factors have been identified as protective of the development of mental health problems in children and adolescents, including: high

social skills/competence [74-77]; strong moral beliefs [77]; high-levels of religiosity [77]; positive personal disposition [74, 76]; positive future outlook [75]; positive social support [74, 76]; strong family cohesion [74, 76, 77]; strong attachment to family [77], and; high-levels of pro-social behaviour in family, school and community [77].

6. A possible role for resilience?

There is much synergy in the factors described above to be protective of mental health, and factors that constitute components of the concept of 'resilience' [4]. The concept of 'resilience' has emerged from a research movement focussed on identifying the impact of such factors on child development [80], and their role in preventing mental health problems [4, 74]. As a consequence, resilience-focussed interventions have focussed on the premise that strengthening such protective factors may be an effective mechanism for positively influencing mental health in children and adolescents, and later as adults [81].

Variation exists in the operationalisation of the construct of 'resilience' [82]. However researchers refer to the construct as dynamic [83] and multifactorial [82], involving the maintenance of, or return to, positive mental health following adversity by utilising multiple internal and external assets and resources (protective factors) that enable an individual to thrive and overcome disadvantage or adversity [81, 84-88]. A key early study, the Kauai Longitudinal Study [89], recognised that not all young people who experience risk or adversity go on to develop mental health problems. The study followed a cohort of 698 children in Kauai, Hawaii, from birth (in 1955) to middle life, and examined adversity, risk, and protective factors, and association with a range of health outcomes including mental health problems [89]. Two thirds of the study sample that had experienced high adversity during childhood developed mental health problems

by adulthood (age 18) [89]. However one third of individuals that experienced high adversity developed no mental health problems during childhood, adolescence, or mid-adulthood (age 40), and demonstrated success in multiple life domains [89]. Conclusions were that three clusters of protective factors contributed to resilience (individual, family, and community), and differentiated individuals who had overcome adversity from those who experienced adversity and developed serious coping problems in childhood and adolescence [89]. Resilience protective factors in the individual domain included: high motor and language skills; advanced self-help skills; problem-solving skills; self-esteem; mastery; positive temperamental characteristics (e.g. agreeable, responsive and sociable); sense of purpose, and; future plans and aspirations [89]. Resilience protective factors in the family and community domains included at least one significant caring adult relationship, home support, and home adult high expectations; and community support, meaningful participation, and caring adult relationships in the community (e.g. teacher, youth leader, or elder mentor) respectively [89]. Similar resilience protective factors have been proposed by other researchers in this field, including both internal factors (e.g. self-efficacy, empathy, communication, and co-operation effective problem solving) and external factors within the wider social environment (e.g. meaningful participation and support within home, school or community environments, peer caring relationships) [81, 84-86, 90-92]. Many of these factors are malleable and therefore can be targeted in preventive interventions [4], with the WHO suggesting that where possible, researchers target a range of malleable evidence-based factors [4]. However, whether some factors may have a greater role in strengthening resilience than others, or be more important to address in preventive programs, remains unclear [92].

7. Resilience-focussed interventions to improve child and adolescent mental health

It has been recommended by the WHO that evidence-based psychosocial interventions be implemented with children and adolescents in community-based settings to reduce or prevent mental health problems [68]. The types of approaches which may be undertaken to do so, vary in the extent to which they are designed to potentially provide benefit to all (i.e. universal interventions) versus benefit to groups of the population at risk of, but not currently having, mental health problems (i.e. indicated interventions), or sharing a common risk (i.e. selective interventions), or displaying high levels of symptoms or meeting criteria for a mental health disorder diagnosis (i.e. treatment interventions) [93]. Universal interventions are aimed at entire groups or populations without discerning which youth may have or be at risk of mental health problems [4, 93], and are of focus in this thesis. They represent one approach to preventing mental health problems in children and adolescents that aligns with international objectives supporting mental health across all people [68], one that is commonly adopted within community-based settings [4].

Schools are one community-based setting for children and adolescents to be provided, on a universal basis, strength-based training through the curriculum as well as through wider school system capacity building approaches [59] aimed at promotion of resilience and prevention of mental health problems [94, 95], such as the Health Promoting Schools approach (three domains: curriculum, teaching and learning; ethos and environment, and; partnerships and services) [96]. Reports have noted the potential for school-based interventions to aid in preventing mental health problems in children and adolescents and provided broad support for resilience approaches [36, 97-99] and called for the a mix of levels of prevention approaches including universal, indicated

and selective programs [36, 68]. For example, a review by the US National Research Council and Institute of Medicine on the prevention of mental, emotional, and behaviour disorders in children and adolescents, acknowledged evidence of the positive effects of universal, targeted and selective school-based interventions and in particular, noted considerable potential for school-based, resilience-focussed interventions to aid in reducing mental health problems in children and adolescents [36]. Similarly, in Australia, the potential for universal and targeted school-based, resilience-focussed approaches in preventing mental health problems in children and adolescents has been noted [92, 97-99].

Resilience-focussed interventions aim to strengthen multiple protective factors identified within the resilience paradigm, and in doing so support the development of coping mechanisms and positive mental health [81]. In recent decades, universal, school-based, resilience-focussed interventions have been broadly implemented across many countries [98, 100]. The question has been posed as to whether the benefits to be derived from such interventions may vary depending on the staging of their delivery, whether in childhood or later in adolescence [101]. Whilst early intervention in childhood is often advocated for [102, 103], it is during adolescence that mental disorders likely to persist into adulthood most often arise [10, 11], and the value of preventive interventions at this stage of life to support the development of capabilities for transition into adulthood has been recognised [67]. Investigating the effect of preventive interventions in children versus adolescents may help progress understanding of when most benefit may be gained. Similarly, gender differences evident in prevalence of mental health problems in young people, and their attribution to a range of factors, including difference in the type of protective factors males and females utilise (e.g. family and social resource protective factors strongest for females, with

protective factors relating to of personal competence, and opportunities and rewards for prosocial involvement strongest for males) [76, 77], lend some support to the premise that the effect of resilience-focussed interventions in children and adolescents may also vary by gender.

A search of past reviews pertaining to interventions to promote positive mental health or prevent mental health problems in children and adolescents (aged 5-18 years) found thirty-six related reviews from 1995-2016 [104-139]. Of these, four reviews included some focus on resilience-focussed interventions (where protective factors were targeted) [136-139]. The identified reviews were examined in terms of their capacity to address questions about impact of universal interventions on mental health problems, as well as assessment of differential intervention effectiveness by age and gender.

The first of the four reviews conducted by Durlak et al., (2011), investigated the effects of 213 controlled evaluations of school-based, universal, social and emotional learning programs (reported between 1970 and Dec 2007) on a range of outcomes including: social and emotional skills; attitude toward self and others; positive social behaviour; academic performance, and; two mental health outcomes, conduct problems and emotional distress, in children and adolescents aged 5-18 years [138]. The review required studies to include an intervention with content targeted at one or more social and emotional skill. The largest portion of interventions were implemented for <1 year (77%), with smaller portions of interventions implemented for >1 year but <2 years (11%), and >2 years (12%) [138]. Meta-analysis of results indicated such interventions to be associated with higher levels of social and emotional skills (ES=0.57, 95% CI: 0.48, 0.67, $p<.05$), attitude toward self and others (ES=0.23, 95% CI: 0.16, 0.30, $p<.05$), positive social behaviour(ES=0.24, 95% CI: 0.16, 0.32, $p<.05$), and lower levels of conduct problems (ES=0.22, 95% CI: 0.16, 0.29, $p<.05$) and emotional distress

(composite score of anxiety and depressive symptoms; ES=0.24, 95% CI: 0.14, 0.35, $p<.05$) at post-intervention and at ≥6 months follow-up (all follow-ups of 6 months or greater combined to perform a 'follow-up effects' analysis) [138]. Differential effects of intervention by age or gender were not examined. Additionally, as the review covered literature from 1970 to 2007, it did not provide evidence regarding the effect of such programs in the most recent decade. The authors note: a need for a greater number of studies to include a measure of targeted social and emotional skills (incorporated in 32% of trials) to aid in improved understanding of the mediational role of such factors, and; a need for greater inclusion of measures of intervention implementation (incorporated in to 43% of included trials) [138].

The second review conducted by Brownlee et al., (2013), reviewed 11 controlled experimental studies (reported between 2000 and 2010) of 'strength and resilience-based' interventions in children and adolescence for methodology rigour, rated three studies to have been conducted utilising rigorous controlled experimental methodology and the remaining eight as moderate to weak in methodology rigor [139]. No quantitative analysis (meta-analysis or narrative synthesis) was employed to examine the effect of such intervention on any participant related outcomes [139]. Brownlee et al., acknowledged diversity in what constitutes resilience-based intervention approaches and noted a need for high-quality, well-controlled future trials of such interventions to determine true effectiveness [139].

Finally, two meta-analyses evaluated the effectiveness of multiple controlled trials in the US of a single school-based intervention, the PENN Resiliency Program (PRP) [136, 137]. PRP is described as a 12 week program based on cognitive-behavioural principles, targeting internal protective factors of children and adolescents (8-18 years) through structured curriculum activities within group sessions [140]. The

first meta-analysis examined the effect of 6 randomised and non-randomised controlled trials (reported between 1990 to Feb 2009) of the universal application of PRP on the single outcome of depressive symptoms at immediate post-intervention, 6- to 8-month follow-up, and 12-month follow-up [137]. The meta-analyses found a positive effect indicated by reduction of depressive symptoms at 12 months follow-up only (ES=0.20, 95% CI: 0.09, 0.32, $p<0.05$) [137]. Additional subgroup analyses were conducted to examine differential intervention effect by gender (across all included studies, i.e. universal and targeted combined), but did not undertake such analysis for universal applications alone [137]. Significant intervention effects were found for girls at 6-8 months only (ES=0.19, 95% CI: 0.02, 0.35, $p<0.05$), and for boys at both 6-8 months and 12 month follow-up points (ES=0.21, 95% CI: 0.05, 0.37, $p<0.05$) [137]. The second, a meta-analysis of 9 randomised controlled trials (reported between 1974 – April 2015) of the universal application of PRP, examined two outcomes, anxiety symptoms (SMD = 0.13, 95% CI: 0.00, 0.26, $p=0.04$) and depressive symptoms (MD=-0.23, 95% CI: -1.09, 0.62, $p=0.59$), and found no evidence of effect on such outcomes at immediate post-intervention. No later follow-up data points nor subgroup analyses were included (e.g. no subgroup analysis by age, child vs. adolescent, or gender)[136].

In summary, across four reviews [136-139], the effect of universal, resilience-focussed interventions was assessed with regard to three mental health outcomes in children and adolescents: anxiety symptoms, depressive symptoms, and conduct problems. Whilst not all types of interventions included in these reviews identified as being based on a 'resilience' approach and/or utilised such terminology, they shared a common focus on interventions targeting protective factors, most commonly targeting internal protective factors. Synthesis of evidence of effect of such interventions on a broader range of mental health problems represents an opportunity to enhance the

understanding of their impact on other prevalent mental health outcomes in children and adolescents. Similarly, further assessment of possible differential impact of such interventions by age, or children versus adolescents, represents an area worthy of further study to potentially inform future tailored development and implementation of universal, resilience-focussed interventions aimed at maximising preventive benefit. In terms of subgroup analyses, none of the four reviews included assessment of differential effect of such interventions for children compared to adolescents. One review included investigation of differential effect by gender and multiple lengths of short- or long-term follow-up, however this was a meta-analysis of multiple trials of one specific resilience-focussed intervention only [137], and as such does not provide a synthesis of such effects across multiple resilience-focussed interventions. Therefore, a need remains for a systematic review of universal, resilience-focussed, school-based interventions that quantitatively synthesises the effect of such interventions on a broad range of mental health problem outcomes, and examines differential effect by subgroup.

The above reviews suggest some promise of universal, school-based interventions targeting protective factors for child and adolescent mental health problems [138], and some mixed results for meta-analytic evaluations of the PENN Resiliency Program [136, 137]. The Brownlee, et al., (2013), review reinforces the broad range of interventions that can fall within a resilience framework (targeting protective factors) that may not explicitly identify as being resilience-focussed, and calls for high-quality, well-controlled future trials of such interventions, inclusive of clearer descriptions of intervention content and characteristics, to determine true effectiveness [139]. The Durlak et al., (2011), review noted a need for greater measurement of targeted protective factors and of program implementation [138]. Further, three of the four reviews noted the type of intervention approach taken in included studies. Brownlee et

al., (2013) [139], noted that all included trials incorporated an intervention that followed a 'treatment manual'. Similarly the Brunwasser et al., (2009)[137], and Bastounis et al., (2016)[136], reviews report findings pertaining to the PENN Resiliency Program which follows structured intervention sessions [140]. There is an emerging interest in 'real-world' applicability of interventions. Few universal, school-based trials for child and adolescent mental health problems have adopted a pragmatic approach (e.g. [141-144]) that offers flexibility in implementation of intervention content to participants and arguably represents a test of an intervention conditions that reflect 'real world' application. There is value in further testing such an approach, inclusive of curriculum strategies and broader school capacity building strategies in keeping with a Health Promoting Schools approach [96]. Finally, trials which incorporate measurement of targeted protective factors are needed to further our understanding of such factors as potential mechanisms of change in mental health, and afford an opportunity to provide data on the relative importance of various protective factors [138].

8. Thesis aims

The aims of this thesis were:

1. Identify the prevalence of, and socio-demographic factors associated with, four mental health problem outcomes (total difficulties, internalising problems, externalising problems, and prosocial behaviour problems) in a regional population of Australian adolescents.

2. Review the effects of universal, school-based, resilience-focussed interventions, relative to a comparison group, on mental health outcomes in children and adolescents; and explore differences in the effects of universal, school-based,

resilience-focussed interventions, relative to a comparison group, on mental

health outcomes in children and adolescents by age, gender, and length of

follow-up.

3. Evaluate the effect of a universal, school-based, pragmatic, resilience-focussed

intervention on four mental health problem outcomes (total difficulties,

internalising problems, externalising problems, and prosocial behaviour

problems) and internal and external resilience protective factors for adolescents.

9. Thesis structure

This thesis comprises seven chapters that address the above aims. The first (Chapter 1:

Introduction) and last (Chapter 7: Discussion) chapters represent the overall

introduction and an overall summary and discussion of implications of this research,

respectively. Five chapters have been written and published in the style of a journal

article, ensuring accordance with the University of Newcastle rules regarding

'submission by publication' (appendix 1). The series of papers that address the thesis

aims are as follows:

Chapter 2: A cross-sectional survey (utilising data from Chapter 6) assessing

prevalence of mental health problems in a regional population of Australian students in

Grades 7–10, and investigating associations between mental health problems

(internalising problems, externalising problems, pro-social behaviour problems, and

total difficulties) and socio-demographic factors (age, Aboriginality, gender, remoteness

of residential location, and socio-economic disadvantage) (Aim 1).

Chapter 3: A protocol describing the methods for a systematic review of universal,

resilience-focussed interventions, targeting children aged 5-18 years, implemented

within schools, and reporting one of seven mental health outcomes (anxiety symptoms, depressive symptoms, hyperactivity, conduct problems, internalising problems, externalising problems, and general psychological distress) (Aim 2).

Chapter 4: Meta-analyses results relating to the systematic review described in chapter 3 for overall intervention effect by mental health outcome for all trials (5-18 years), and for subgroup analyses investigating differential intervention effect by: age (child trials: 5-11 years; adolescent trials: 11-18 years); gender (male, female), and; length of follow-up (short term: ≤12 months; long term: > 12 months) (Aim 2).

Chapter 5: A detailed protocol outlining the methods of a cluster randomised controlled trial of a universal, resilience-focussed intervention implemented across secondary schools in one local health district, evaluated through student surveys at baseline (2011), and immediate post follow-up (2014) (following intervention strategies implemented during Grades 8 to 10, 2012-2014) (Aim 3).

Chapter 6: Immediate post-intervention effects for the outcomes of mental health problems (internalising problems, externalising problems, pro-social behaviour problems, and total difficulties), and internal and external protective factors, for the cluster randomised controlled trial described in Chapter 5 (Aim 3)**.**

References

1.   **Health Topics: Mental Health** [http://www.who.int/topics/mental_health/en/]

2.   American Psychiatric Association: **Diagnostic and Statistical Manual of Mental Disorders (DSM-5)**, 5th edn. Arlington, VA: American Psychiatric Publishing; 2013.

3.   Hunter Institute of Mental Health: **Prevention First: A Prevention and Promotion Framework for Mental Health**. In. Newcastle, NSW, Australia; 2015.

4.   World Health Organisation: **Prevention of mental disorders: Effective interventions and policy options: Summary report**. In.: A report of the World Health Organization Deptartment of Mental Health and Substance Abuse; in collaboration with the Prevention Research Centre of the Universities of Nijmegen and Maastricht; 2004.

5.   Murray C, Lopez A, eds: **The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020**. In. Cambridge, MA, United States: Harvard School of Public Health on behalf of the World Health Organization and the World Bank (Global Burden of Disease and Injury Series, Vol. I). 1996.

6.   Murray CJL, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S *et al*: **Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010**. *The Lancet* 2012, **380**(9859):2197-2223.

7.   Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJL: **Global burden of disease and risk factors. Disease Control Priorities Project**. Washington, DC, and; New York, NY,: The World Bank and and Oxford University Press; 2006.

8.   Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, Charlson FJ, Norman RE, Flaxman AD, Johns N *et al*: **Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010**. *Lancet* 2013, **382**:1575–1586.

9.   World Health Organisation: **The World Health Report 2001**. In: *Mental health: New understanding new hope*. Geneva, France: World Health Organisation; 2001.

10.   Patel V, Flisher AJ, Hetrick S, McGorry P: **Mental health of young people: A global public-health challenge**. *The Lancet* 2007, **369**(9569):1302-1313.

11.   Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE: **Lifetime prevalence and age-of-onset distributions of DSM-IV Disorders in the National Comorbidity Survey Replication**. *Archives of General Psychiatry* 2005, **62**(6):593-602.

12.   Fergusson DM, Woodward LJ: **Mental health, educational, and social role outcomes of adolescents with depression**. *Archives of General Psychiatry* 2002, **59**(3):225-231.

13.   Brown DW, Anda RF, Tiemeier H, Felitti VJ, Edwards VJ, Croft JB, Giles WH: **Adverse childhood experiences and the risk of premature mortality**. *American Journal of Preventative Medicine* 2009, **37**(5):389-396.

14.   Springer KW, Sheridan J, Kuo D, Carnes M: **Long-term physical and mental health consequences of childhood physical abuse: Results from a large population-based sample of men and women**. *Child Abuse and Neglect* 2007, **31**(5):517-530.

15.   Turner HA, Butler MJ: **Direct and indirect effects of childhood adversity on depressive symptoms in young adults**. *Journal of Youth and Adolescence* 2003, **32**(2):89-103.

16.   Arnow BA: **Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization**. *Journal of Clinical Psychiatry* 2004, **65**(suppl 12):10-15.

17.   World Health Organisation Secretariat: **Global burden of mental disorders and the need for a comprehensive, coordinated response from health and social sectors at the country level**. In: *Sixty-fifth World Health Assembly: 2012; Geneva, Switzerland*: World Health Organisation; 2012.

18.   Bloom DE, Cafiero ET, Jané-Llopis E, Abrahams-Gessel S, Bloom LR, Fathima S, Feigl AB, Gaziano T, Mowafi M, Pandya A *et al*: **The Global Economic Burden of Noncommunicable Diseases**. In. Geneva, Switzerland: World Economic Forum; 2011.

19.   Kessler RC, Aguilar-Gaxiola S, Alonso J, Chatterji S, Lee S, Ormel J, Üstün TB, Wang PS: **The global burden of mental disorders: An update from the WHO World Mental Health (WMH) Surveys**. *Epidemiologia e psichiatria sociale* 2009, **18**(1):23-33.

20.   Kessler RC, Angermeyer MC, Anthony JC, DeGraaf R, Demyttenaere K, Gasquet I, DeGirolamo G, Gluzman SF, Gureje O, Maria Haro J *et al*: **Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative.** *World Psychiatry* 2007, **6**(3):168-176.

21.   Australian Institute of Health and Welfare: **Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011. Australian Burden of Disease Study series no. 3. BOD 4**. In. Canberra, ACT, Australia: AIHW; 2016.

22.   Medibank and Nous Group: **The Case for Mental Health Reform in Australia: a Review of Expenditure and System Design**. In. Australia: Medibank Private Limited and Nous Group; 2013.

23. beyondblue and the Australian Government National Mental Health Commission Mentally Healthy Workplace Alliance: **Creating a mentally healthy workplace: Return on investment analysis. Final Report**. In. Australia: Pricewaterhouse Coopers (PwC); 2014.

24. Royal Australian and New Zealand College of Psychiatrists: **The economic cost of serious mental illness and comorbidities in Australia and New Zealand**. In. Melbourne, VIC, Australia: Royal Australian and New Zealand College of Psychiatrists; 2016.

25. Australian Bureau of Statistics: **National survey of mental health and wellbeing: Summary of results**. In: *Volume 4326*. Canberra, ACT, Australia: Australian Bureau of Statistics; 2007.

26. Access Economics Pty Limited: **The economic impact of youth mental illness and the cost effectiveness of early intervention**. In. Parkville, VIC, Australia: headspace Centre of Excellence, Orygen Youth Health Research Centre; 2009.

27. Mental Health Foundation: **Truth hurts: Report of the National Inquiry into self-harm among young people**. In. London: Mental Health Foundation; 2006.

28. Suhrcke M, Pillas D, Selai C: **Economic aspects of mental health in children and adolescents**. In: *Social Cohesion for mental well-being in adolescents: World Health Organisation and health behaviour in school-aged children forum 2007*. edn. Copenhagen, Denmark: WHO Regional Office for Europe; 2008.

29. Merikangas KR, Nakamura EF, Kessler RC: **Epidemiology of mental disorders in children and adolescents**. *Dialogues in Clinical Neuroscience* 2009, **11**(1):7-20.

30. Braddick F, Carral V, Jenkins R, Jané-Llopis E: **Child and adolescent mental health in Europe: Infrastructures, policy and programmes**. In. Luxembourg: European Communities 2009.

31. Polanczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA: **Annual Research Review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents**. *Journal of Child Psychology and Psychiatry* 2015, **56**(3):345-365.

32. Costello EJ, Mustillo S, Keller G, Angold A: **Prevalence of psychiatric disorders in childhood and adolescence.** In: *Mental Health Services: A Public Health Perspective.* 2nd edn. Edited by Levin BL, Petrila J, Hennessy KD. UK: Oxford University Press; 2004: 111-128.

33. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, Nurcombe B, Patton GC, Prior MR, Raphael B *et al*: **The mental health of young people in Australia: Key findings from the Child and Adolescent Component of the National Survey of Mental Health and Well-being**. *Australian and New Zealand Journal of Psychiatry* 2001, **35**(6):806-814.

34. Merikangas KR, He J, Bustein M, Swanson SA, Avenevoli S, Cui L, Georgiades K, Swendsen J: **Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Study-Adolescent Supplement (NCS-A)**. *Journal of the American Academy of Child and Adolescent Psychiatry* 2010, **49**(10):980-989.

35. Waddell C, Shepherd C: **Prevalence of Mental Disorders in Children and Youth**. In: *A Research Update Prepared for the British Columbia Ministry of Children and Family Development*. Vancouver, British Columbia, Canada: The University of British Columbia 2002.

36. National Research Council and Institute of Medicine: **Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities. Committee on the Prevention of Mental Disorders and Substance Abuse Among Children, Youth, and Young Adults: Research Advances and Promising Interventions**. In. Edited by O'Connell M, Boat T, Warner K. Washington, DC, United States: Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education; 2009.

37. Reiss F: **Socioeconomic inequalities and mental health problems in children and adolescents: A systematic review.** *Social Science and Medicine* 2013, **90**(1):24-31.

38. Angold A, Costello EJ: **Developmental epidemiology**. *Epidemiologic Reviews* 1995, **17**(1):74-82.

39. Green H, McGinnity A, Meltzer H, Ford T, Goodman R: **Mental Health of Children and Young People in Great Britain, 2004.** In. London, England, United Kingdom: Office of National Statistics, The Stationary Office 2005.

40. McMartin S E, Kingsbury M, Dykxhoorn J, Colman I: **Time trends in symptoms of mental illness in children and adolescents in Canada**. *Canadian Medical Association Journal* 2014, **186**(18):E672-678.

41. Murray CJL, Lopez AD, Mathers CD, Stein C: **The Global Burden of Disease 2000 project: Aims, methods and data sources. Global Programme on Evidence for Health Policy Discussion Paper No. 36**. In. Geneva, Switzerland: World Health Organisation; 2001.

42. Australian Bureau of Statistics: **3303.0 - Causes of Death, Australia, 2015**. In., 28 September 2016 edn. Canberra, ACT, Australia: Australian Bureau of Statistics; 2015.

43. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, Nurcombe B, Patton GC, Prior MR, Raphael B *et al*: **Mental Health of Young People in Australia: Child and Adolescent Component of the National Survey of Mental Health and Well-being**. In. Canberra, ACT, Australia: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care 2000.

44. Lawrence D, Hafekost J, Johnson SE, Saw S, Buckingham WJ, Sawyer MG, Ainley J, Zubrick SR: **Key findings from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing**. *Australian and New Zealand Journal of Psychiatry* 2016, **50**(9):876-886.

45. Lawrence D, Johnson S, Hafekost J, Boterhoven de Haan K, Sawyer M, Ainley J, Zubrick SR: **The mental health of children and adolescents: Report on the second Australian child and adolescent survey of mental health and wellbeing**. In. Canberra, ACT, Australia: Department of Health; 2015.

46. Australian Institute of Health and Welfare: **Young Australians: Their health and wellbeing**. In. Canberra, ACT, Australia: Australian Institute of Health and Welfare 2011.

47. Maughan B, Iervolino AC, Collishaw S: **Time trends in child and adolescent mental disorders**. *Current opinion in psychiatry* 2005, **18**(4):381-385.

48. Wanjun C, Zack MM: **Trends in health-related quality of life among adolescents in the United States, 2001–2010**. *Preventing Chronic Disease* 2013, **10**(120334).

49. Collishaw S, Maughan B, Goodman R, Pickles A: **Time trends in adolescent mental health** *Journal of Child Psychology and Psychiatry* 2004, **45**(8):1350–1362.

50. Holling H, Schlack R, Petermann F, Ravens-Sieberer U, Mauz E: **[Psychopathological problems and psychosocial impairment in children and adolescents aged 3-17 years in the German population: prevalence and time trends at two measurement points (2003-2006 and 2009-2012): results of the KiGGS study: first follow-up (KiGGS Wave 1)]**. *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz* 2014, **57**(7):807-819.

51. Mission Australia: **Young People's Mental Health Over the Years**. In: *Youth Survey 2012-14*. Australia: Mission Australia and the Black Dog Institute; 2015.

52. Collishaw S: **Annual Research Review: Secular trends in child and adolescent mental health**. *Journal of Child Psychology and Psychiatry* 2015, **56**(3):370-393.

53. Ivancic L, Perrens B, Fildes J, Perry Y, Christensen H: **Youth Mental Health Report, June 2014**. In. Sydney, NSW, Australia: Mission Australia and Black Dog Institute; 2014.

54. Pastor PN, Reuben CA, Duran CR: **Identifying Emotional and Behavioral Problems in Children Aged 4–17 Years: United States, 2001–2007**. In: *National Health Statistics Report*. United States of America: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.

55. **Gathering New Data: The Victorian Adolescent Health and Wellbeing Survey (VAHWS). Victorian Department of Education and Early Childhood Development, Australia.** [http://www.education.vic.gov.au/about/research/pages/newdata.aspx]

56. Rescorla L, Achenbach TM, Ivanova MY, Dumenci L, Almqvist F, Bilenberg N, Bird H, Broberg A, Dobrean A, Döpfner M *et al*: **Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries**. *Journal of Consulting and Clinical Psychology* 2007, **75**(2):351-358.

57. Muris P, Meesters C, van den Berg F: **The Strengths and Difficulties Questionnaire (SDQ): Further evidence for its reliability and validity in a community sample of Dutch children and adolescents**. *European Child & Adolescent Psychiatry* 2003, **12**(1):1-8.

58. Mellor D: **Normative data for the Strengths and Difficulties Questionnaire in Australia**. *Australian Psychologist* 2005, **40**(3):215-222.

59. World Health Organisation: **Health for the World's Adolescents**. In: *A second chance in the second decade.* World Health Organisation: Geneva, Switzerland: World Health Organisation; 2014.

60. Kazdin AE: **Adolescant mental health: Prevention and treatment programs**. *American Psychologist* 1993, **48**(2):127-141.

61. Australian Bureau of Statistics: **Australian social trends: Risk taking by young people**. In: *Article: Risk taking by young people.* Canberra, ACT, Australia: Australian Bureau of Statistics; 2008.

62. Blakemore S, Mills KL: **Is Adolescence a sensitive period for sociocultural processing?** *Annual Review of Psychology* 2014, **65**(1):187-207.

63. Murray G, Judd F, Jackson H, Fraser C, Komiti A, Hodgins G, Pattison P, Humphreys J, Robins G: **Rurality and mental health: The role of accessibility**. *Australian and New Zealand Journal of Psychiatry* 2004, **38**(8):629-634.

64. World Health Organisation: **The mental health of Indigenous peoples: An international overview**. In. Edited by Cohen A. Geneva, Switzerland: Department of Mental Health, World Health Organisation 1999.

65. Jorm AF, Bourchier SJ, Cvetkovski S, Stewart G: **Mental health of Indigenous Australians: A review of findings from community surveys**. *Medical Journal of Australia* 2012, **196**(2):118-121.

66. Buckley S, Cannon M, Chambers D, Coughlan H, Duffy M, Gavin B, Keeley H, McGorry P, Power P, Shiers D: **The International Declaration on Youth Mental Health**. In. Killarney, Ireland: International Association of Youth Mental Health; 2011.

67. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afi fi R, Allen NB, Arora M, Azzopardi P, Baldwin W, Bonell C *et al*: **Our future: A Lancet commission on adolescent health and wellbeing**. *The Lancet* 2016, **387**:2423–2478.

68. World Health Organisation: **Comprehensive mental health action plan 2013–2020**. In: *Sixty-Sixth World Health Assembly, Geneva, Switzerland 2013*: WHA66.8; 2013.

69. Stice E, Hayward C, Cameron RP, Killen JD, Taylor CB: **Body-image and eating disturbances predict onset of depression among female adolescents: A longitudinal study**. *Journal of Abnormal Psychology* 2000, **109**(3):438-444.

70. Arseneault L, Cannon M, Poulton R, Murray R, Caspi A, Moffitt TE: **Cannabis use in adolescence and risk for adult psychosis: Longitudinal prospective study**. *British Medical Journal* 2002, **325**(7374):1212-1213.

71. Anda RF, Felitti VJ, Bremner JD, Walker JD, Whitfield C, Perry BD, Dube SR, Giles WH: **The enduring effects of abuse and related adverse experiences in childhood**. *European Archives of Psychiatry and Clinical Neuroscience* 2006, **256**(3):174-186.

72. Chapman DP, Whitfield CL, Felitti VL, Dube SR, Edwards VJ, Anda RF: **Adverse childhood experiences and the risk of depressive disorders in adulthood**. *Journal of Affective Disorders* 2004, **82**(2):217-225.

73. Lee S, Guo WJ, Tsang A, He YL, Huang YQ, Zhang MY, Liu ZR, Shen YC, Kessler RC: **The prevalence of family childhood adversities and their association with first onset of DSM-IV disorders in metropolitan China**. *Psychological Medicine* 2011, **41**(1):85-96.

74. Hjemdal O, Aune T, Reinfjell T, Stiles TC: **Resilience as a predictor of depressive symptoms: A correlational study with young adolescents**. *Clinical Child Psychology and Psychiatry* 2007, **12**(1):91-104.

75. Hjemdal O, Friborg O, Stiles TC, Rosenvinge JH, Martinussen M: **Resilience predicting psychiatric symptoms: A prospective study of protective factors and their role in adjustment to stressful life events**. *Child Psychology and Psychotherapy* 2006, **13**(3):194-201.

76. Hjemdal O, Vogel PA, Solem S, Hagen K, Stiles TC: **The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents**. *Clinical Psychology and Psychotherapy* 2011, **18**(4):214-321.

77. Bond L, Toumbourou JW, Thomas L, Catalano RF, Patton G: **Individual, family, school, and community risk and protective factors for depressive symptoms in adolescents: A comparison of risk profiles for substance use and depressive symptoms**. *Prevention Science* 2005, **6**(2):73-88.

78. Moore THM, Zammit S, Lingford-Hughes A, Barnes TRE, Jones PB, Burke M, Lewis G: **Cannabis use and risk of psychotic or affective mental health outcomes: A systematic review**. *The Lancet* 2007, **370**(9584):319-328.

79. Widom CS: **Posttraumatic stress disorder in abused and neglected children grown up.** *American Journal of Psychiatry* 1999, **156**(8):1223-1229.

80. Greenberg MT: **Promoting resilience in children and youth: Preventative interventions and their interface with Neuroscience**. *Annals of the New York Academy of Sciences* 2006, **1094**:139-150.

81. Fergus S, Zimmerman MA: **Adolescent resilience: A framework for understanding healthy development in the face of risk**. *Annual Review of Public Health* 2005, **26**:399-419.

82. Davydov DM, Stewart R, Ritchie K, Chaudieu I: **Resilience and mental health**. *Clinical Psychology Review* 2010, **30**(5):479-495.

83. Luthar SS, Zelazo LB: **Research on resilience: An integrative review.** In: *Resilience and vulnerability: Adaptation in the context of childhood adversities.* edn. Edited by Luthar SS. New York: Cambridge University Press; 2003: 510-549.

84. Sun J, Stewart DE: **Promoting student resilience and wellbeing: Asia-Pacific Resilient Children and Communities Project**. In: *International Research Handbook on Values Education and Student Wellbeing.* edn. Edited by Lovat T, Toomey R, Clement N. New York, US: Springer Science & Business Media; 2010: 409-426.

85. Lee PC, Stewart DE: **Does a socio-ecological school model promote resilience in primary schools?** *Journal of School Health* 2013, **83**(11):795-804.

86. Cowen EL, Hightower AD, Pedro-Carroll JL, Work WC, Wyman PA, Haffey WG: **The Rochester Child Resilience Project**. In: *School-based prevention for children at risk: The Primary Mental Health Project.* edn. Washington, DC, US: American Psychological Association; US; 1996: 255-274.

87. Ungar M: **Putting resilience theory into action: Five principles for intervention**. In: *Resilience in action.* edn. Edited by Liebenberg L, Ungar M. Toronto, Buffalo; London: University of Toronto Press; 2008: 17-36.

88. Noltemeyer AL, Bush KR: **Adversity and resilience: A synthesis of international research**. *School Psychology International* 2013, **34**(5):474-487.

89. Werner EE: **Resilience and recovery: Findings from the Kauai Longitudinal Study**. *Research, Policy, and Practice in Children's Mental Health* 2005, **19**(1):11-14.

90. Benard B: **Fostering resiliency in kids: Protective factors in the family, school, and community**. Portland, Ore: Western Center for Drug-Free Schools and Communities; 1991.

91. Benard B: **Fostering resiliency in kids**. *Educational Leadership: Character Education* 1993, **51**(3):44-48.

92. Beyond Blue Ltd: **Building resilience in children aged 0–12: A practice guide**. In. VIC, Australia: beyondblue; 2017.

93. Weisz JR, Sandler IN, Durlak JA, Anton BS: **Promoting and protecting youth mental health through evidence-based prevention and treatment**. *American Psychologist* 2005, **60**(6):628-648.

94. Greenberg MT, Domitrovich C, Bumbarger B: **The prevention of mental disorders in school-aged children: Current state of the field**. *Prevention and Treatment* 2001, **4**(1):1-59.

95. Brooks JE: **Strengthening resilience in children and youths: Maximising opportunities through schools**. *Children & Schools* 2006, **28**(2):69-76.

96. World Health Organisation: **Planning meeting in health promoting schools project: Background, development and strategy outline of the health promoting schools project**. In. Copenhagen, Denmark: World Health Organisation; 1991.

97. National Mental Health Commission: **Contributing lives, thriving communities: Report of the National Review of Mental Health Programmes and Services**. In. Sydney, NSW, Australia: NMHC; 2014.

98. VicHealth: **Interventions to build resilience among young people** In. Melbourne, VIC, Australia: Victorian Health Promotion Foundation; 2015.

99. Cahill H, Beadle S, Farrelly A, Forster R, Smith K: **Building resilience in children and young people: A literature review for the Department of Education and Early Childhood Development (DEECD)**. In. Melbourne, VIC, Australia: Youth Research Centre, Melbourne Graduate School of Education, University of Melbourne; 2014.

100. Dray J, Bowman J, Campbell E, Freund M, Wolfenden L, Hodder RK, McElwaine K, Tremain D, Bartlem K, Bailey J *et al*: **Systematic review of universal resilience-focused interventions targeting child and adolescent mental health in the school setting**. *Journal of the American Academy of Child & Adolescent Psychiatry* 2017, **56**(10):813-824.

101. Lowry-Webster HM, Barrett PM, Lock S: **A universal prevention trial of anxiety symptomology during childhood: Results at 1-year follow-up**. *Behaviour Change* 2003, **20**(1):25-43.

102.   Karoly LA, Kilburn RM, Cannon J: **Proven Benefits of Early Childhood Interventions**. In. Santa Monica, CA: RAND Corporation; 2005.

103.   Karoly LA, Kilburn RM, Cannon J: **Early Childhood Interventions: Proven Results, Future Promise**. In. Santa Monica, CA: RAND Corporation; 2005.

104.   Andrews G, Wilkinson DD: **The prevention of mental disorders in young people**. *Medical Journal of Australia* 2002, **177**(Suppl 7):S97-S100.

105.   Beardslee WR, Gladstone TRG: **Prevention of childhood depression: Recent findings and future prospects**. *Biological psychiatry* 2001, **49**(12):1101-1110.

106.   Becker KD, Brandt NE, Stephan SH, Chorpita BF: **A review of educational outcomes in the children's mental health treatment literature**. *Advances in School Mental Health Promotion* 2014, **7**(1):5-23.

107.   Bennett K, Rhodes AE, Duda S, Cheung AH, Manassis K, Links P, Mushquash C, Braunberger P, Newton AS, Kutcher S *et al*: **A youth suicide prevention plan for Canada: A systematic review of reviews**. *Canadian Journal of Psychiatry* 2015, **60**(6):245-257.

108.   Calear AL, Christensen H: **Systematic review of school-based prevention and early intervention programs for depression**. *Journal of Adolescence* 2010, **33**(3):429-438.

109.   Domitrovich CE, Greenberg MT: **The study of implementation: Current findings from effective programs that prevent mental disorders in school-aged children**. *Journal of Educational and Psychological Consultation* 2000, **11**(2):192-221.

110.   Durlak JA, Wells AM: **Primary prevention mental health programs for children and adolescents: A meta-analytic review**. *American Journal of Community Psychology* 1997, **25**(2):115-152.

111.   Greenberg MT: **Promoting resilience in children and youth: preventive interventions and their interface with neuroscience**. *Ann N Y Acad Sci* 2006, **1094**(1):139-150.

112.   Hoagwood K, Erwin HD: **Effectiveness of school-based mental health services for children: A 10-year research review**. *Journal of Child and Family Studies* 1997, **6**(4):435-451.

113.   Hoagwood KE, Olin SS, Kerker BD, Kratochwill TR, Crowe M, Saka N: **Empirically based school interventions targeted at academic and mental health functioning**. *Journal of Emotional and Behavioral Disorders* 2007, **15**(2):66-92.

114.   Hooman HA, Ganji K, Omidifar A: **The meta-analysis of the effectiveness of life skills training on mental health**. *Journal of Iranian Psychologists* 2013, **10**(37):39-50.

115. Jané-Llopis E, Barry M: **Mental health promotion works: A review**. *Global Health Promotion* 2005, **12**(Suppl 2):9-25.

116. Joronen K, Rankin SH, Astedt-Kurki P: **School-based drama interventions in health promotion for children and adolescents: Systematic review**. *Journal of Advanced Nursing* 2008, **63**(2):116-131.

117. Joseph GE, Strain PS: **Comprehensive evidence-based social—emotional curricula for young children: An analysis of efficacious adoption potential**. *Topics in Early Childhood Special Education* 2003, **23**(2):62-73.

118. Karch D, Albers L, Renner G, Lichtenauer N, von Kries R, Roseveare D: **The efficacy of cognitive training programs in children and adolescents: A meta-analysis**. *Deutsches Arzteblatt International* 2013, **110**(39):643-652.

119. Katz C, Bolton SL, Katz LY, Isaak C, Tilston-Jones T, Sareen J, Swampy Cree Suicide Prevention T: **A systematic review of school-based suicide prevention programs**. *Depress Anxiety* 2013, **30**(10):1030-1045.

120. Kidger J, Araya R, Donovan J, Gunnell D: **The effect of the school environment on the emotional health of adolescents: A systematic review**. *Pediatrics* 2012, **129**(5):925-949.

121. Klasen H, Crombag A-C: **What works where? A systematic review of child and adolescent mental health interventions for low and middle income countries**. *Social Psychiatry and Psychiatric Epidemiology* 2013, **48**(4):595-611.

122. Merry SN, Hetrick SE, Cox GR, Brudevold-Iversen T, Bir JJ, McDowell H: **Psychological and educational interventions for preventing depression in children and adolescents**. *The Cochrane database of systematic reviews* 2011(12):Cd003380.

123. Merry SN, McDowell HH, Hetrick SE: **Psychological and/or educational interventions for the prevention of depression in children and adolescents**. *Cochrane Database of Systematic Reviews* 2004(1):CD003380.

124. Neil AL, Christensen H: **Australian school-based prevention and early intervention programs for anxiety and depression: A systematic review**. *Medical Journal of Australia* 2007, **186**(6):305-308.

125. Novins DK, Green AE, Legha RK, Aarons GA: **Dissemination and implementation of evidence-based practices for child and adolescent mental health: A systematic review**. *Journal of the American Academy of Child and Adolescent Psychiatry*, **52**(10):1009-1025.

126. O'Mara L, Lind C: **What do we know about school mental health promotion programmes for children and youth?** *Advances in School Mental Health Promotion* 2013, **6**(3):203-224.

127. Sancassiani F, Pintus E, Holte A, Paulus P, Moro MF, Cossu G, Angermeyer MC, Carta MG, Lindert J: **Enhancing the emotional and social skills of the youth to promote their wellbeing and positive development: A systematic review of universal school-based randomized controlled trials**. *Clinical Practice and Epidemiology in Mental Health* 2015, **11**(Suppl 1):21-40.

128. Spence SH, Shortt AL: **Research Review: Can we justify the widespread dissemination of universal, school-based interventions for the prevention of depression among children and adolescents?** *The Journal of Child Psychology and Psychiatry* 2007, **48**(6):526-542.

129. Tennant R, Goens C, Barlow J: **A systematic review of reviews of interventions to promote mental health and prevent mental health problems in children and young people**. *Journal of Public Mental Health* 2007, **6**(1):25-32.

130. Terzian M, Hamilton K, Ericson S: **What Works to Prevent or Reduce Internalizing Problems or Socio-Emotional Difficulties in Adolescents: Lessons from Experimental Evaluations of Social Interventions. Fact Sheet.** . In: *Child Trends.* Washington, DC; 2011: 11.

131. Tol WA, Barbui C, Galappatti A: **Mental health and psychosocial support in humanitarian settings: linking practice and research**. *The Lancet* 2011, **378**(9802):1581-1591.

132. Waddell C, Hua JM, Garland OM, Peters RD, McEwan K: **Preventing mental disorders in children: A systematic review to inform policy-making**. *Canadian Journal of Public Health* 2007, **98**(3):166-173.

133. Waters L: **A review of school-based positive psychology interventions**. *The Australian Educational and Developmental Psychologist* 2011, **28**(2):75-90.

134. Weare K, Nind M: **Mental health promotion and problem prevention in schools: what does the evidence say?** *Health promotion international* 2011.

135. Wolf JL: **A meta-analysis of primary preventive interventions targeting the mental health of children and adolescents: A review spanning 1992--2003**. *Dissertation Abstracts International: Section B: The Sciences and Engineering* 2005, **66**(6-B):3431.

136. Bastounis A, Callaghan P, Banerjee A, Michail M: **The effectiveness of the Penn Resiliency Programme (PRP) and its adapted versions in reducing depression and anxiety and improving explanatory style: A systematic review and meta-analysis**. *Journal of Adolescence* 2016, **52**(Oct):37-48.

137. Brunwasser SM, Gillham JE, Kim ES: **A meta-analytic review of the Penn Resiliency Program's effect on depressive symptoms**. *American Psychological Association* 2009, **77**(6):1045-1054.

138.   Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB: **The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions**. *Child Development* 2011, **82**(1):405-432.

139.   Brownlee K, Rawana J, Franks J, Harper J, Bajwa J, O'Brien E, Clarkson A: **A systematic review of strengths and resilience outcome literature relevant to children and adolescents**. *Child and Adolescent Social Work Journal* 2013, **30**(5):435-459.

140.   Gillham JE, Brunwasser SM, Freres DR: **Preventing depression in early adolescence: The Penn Resiliency Program**. In: *Handbook of Depression in Children and Adolescents.* edn. Edited by Abela JRZ, Hankin BL. New York, United States of America: The Guilford Press; 2008: 309-332.

141.   Hawkins JD, Oesterle S, Brown EC, Abbott RD, Catalano RF: **Youth problem behaviors 8 years after implementing the communities that care prevention system: A community-randomized trial**. *JAMA Pediatrics* 2014, **168**(2):122-129.

142.   Spoth R, Greenberg MT: **Toward a comprehensive strategy for effective practitioner–scientist partnerships and larger-scale community health and well-being**. *American Journal of Community Psychology* 2005, **35**(3-4):107-126.

143.   Wolpert M, Humphrey N, Deighton J, Patalay P, Fugard AJB, Fonagy P, Belsky J, Vostanis P: **An evaluation of the implementation and impact of England's Mandated School-Based Mental Health Initiative in elementary schools**. *School Psychology Review* 2015, **44**(1):117-138.

144.   Spoth R, Trudeau LS, Redmond CR, Shin C, Greenberg MT, Feinberg ME, Hyun G: **PROSPER partnership delivery system: Effects on adolescent conduct problem behavior outcomes through 6.5 years past baseline**. *Journal of Adolescence* 2015, **45**(1):44-55.

MENTAL HEALTH PROBLEMS IN A REGIONAL POPULATION OF AUSTRALIAN ADOLESCENTS: ASSOCIATION WITH SOCIO-DEMOGRAPHIC CHARACTERISTICS

CHAPTER 2

CrossMark

Mental health problems in a regional population of Australian adolescents: association with socio-demographic characteristics

Julia Dray[1,2,4*] , Jenny Bowman[2,4], Megan Freund[3,4], Elizabeth Campbell[1,3,4], Rebecca K. Hodder[1,3,4], Christophe Lecathelinais[1,3] and John Wiggers[1,3,4]

Abstract

Background: Population level data regarding the general mental health status, and the socio-demographic factors associated with the mental health status of adolescents in Australia aged 12–16 years is limited. This study assessed prevalence of mental health problems in a regional population of Australian students in Grades 7–10, and investigated associations between mental health problems and socio-demographic factors.

Methods: A web-based survey was conducted in 21 secondary schools located in disadvantaged local government areas in one regional local health district of NSW Australia. Mental health problems were measured using the youth self-report Strengths and Difficulties Questionnaire (SDQ) total SDQ score and three subscale scores (internalising problems, externalising problems and prosocial behaviour). Associations between each SDQ outcome and student socio-demographic characteristics (age, gender, Aboriginal and/or Torres Strait Islander Status, remoteness of residential location and socio-economic disadvantage) were investigated.

Results: Data are reported for 6793 students aged 12–16 years. Nineteen percent of participants scored in the 'very high' range for the total SDQ, 18.0 % for internalising problems, 11.3 % for externalising problems and 8.9 % for prosocial behaviour problems. Gender and Aboriginal status were associated with all four SDQ outcomes, while age was associated with two, excluding externalising problems and prosocial behaviour. Aboriginal adolescents scored higher for mental health problems than non-Aboriginal adolescents for all four SDQ outcomes. Females scored higher than males for total SDQ and internalising problems, with mean difference greatest at age 15. Males scored higher for externalising problems and lower for prosocial behaviour than females.

Conclusions: The finding that mental health problems significantly varied by age, gender and Aboriginality may suggest a need for tailored interventions for groups of adolescents with highest levels of mental health problems.

Trial Registration ANZCTR ACTRN12611000606987. Registered 14/06/2011.

Keywords: Mental health problems, SDQ, Adolescent, Socio-demographic characteristics

Background

Globally, it is estimated that between 1.8 and 39.4 % of young people aged 0–16 years experience mental health problems [1], with such problems accounting for 15–30 % of disability adjusted life-years lost during the first three decades of life [2]. The wide range of prevalence estimates has been suggested to be attributable to differences between studies in the populations (including age groups studied), risk and protective factor characteristics of the samples, the measurement approaches and tools used [1,

*Correspondence: Julia.Dray@uon.edu.au
[2] Faculty of Science and IT, School of Psychology, University of Newcastle, University Drive, Callaghan, NSW, Australia
Full list of author information is available at the end of the article

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 2 of 11

42

3]. Further, such differences have been attributed to cultural contexts, where cultural background may impact on the expression and evaluation of symptoms of mental health problems and level of impairment [1, 3].

Population level studies of mental health problems are suggested to require standardised measurement tools that can be feasibly implemented on a large-scale [4]. In addition, tools that provide a measure of the general mental health status of participants rather than of specific diagnostic conditions, and that can be administered without extensive clinical knowledge, are recommended in describing the mental health of the adolescent population overall, and of particular groups within the adolescent population [5, 6].

Limited population level data have been reported regarding the mental health status of adolescents [7], with adolescence being defined as the second decade of life [8]. Where such data exist, there is considerable variability regarding the extent to which it meets the above best practice measurement recommendations for population level studies [3]. For example, a recent report regarding child and adolescent mental health data in 15 European countries found few to have data regarding the mental health status of adolescents that met such recommendations [6]. The report noted that existing population prevalence surveys differed in terms of the age ranges covered, the recency of data collection, the mental health problems assessed and the measurement instruments used, with most countries reporting the prevalence of specific mental health disorders and not of mental health status generally [6].

In contrast, systematic collection of population level adolescent mental health data has occurred in the United Kingdom through the National Survey of Mental Health of Children and Young People [5]. The most recent survey was undertaken in 2004 [5], with a follow-up study addressing age of onset and persistence conducted in 2007 [9]. Children and adolescents aged 5–16 years were assessed using a battery of items including the Development And Well-Being Assessment (DAWBA) tool [5]. Based on the DAWBA tool, the 2004 survey identified 10 % of young people aged 5–16 years to have a clinically diagnosed mental disorder, with prevalence being greater for: older children; males; some ethnic groups; and for adolescents with parents who were socio-economically disadvantaged [5]. The prevalence of clinically diagnosed mental disorders for adolescents aged 11–15 years was 12 % [5].

Similarly, in the United States of America, the National Health Interview Survey (NHIS; conducted since 1957) was adapted from 2001 to include the parent-report version of the Strengths and Difficulties Questionnaire (SDQ) [10], with some components of the SDQ being included in the survey annually until present. The SDQ is a standardised measure of mental health problems in children and adolescents, with established reliability and validity [11, 12]. From 2001 to 2007, the NHIS found 2 % of children and adolescents aged 4–17 years to have high scores on the brief version of the SDQ, with prevalence highest amongst older children (2.6 % for both adolescents 11–14 years and 15–17 years: 10). Additionally prevalence was found to be similar for males and females (2.3 and 2.1 % respectively), and to vary by race, language, ethnicity, family type, family income and type of health insurance [10].

In Australia, the collection of recent population level data regarding the general mental health status of adolescents has been limited, with a noted gap in such data particularly for young Australians aged 12–15 years [13]. The National Survey of Mental Health and Wellbeing has incorporated a child and adolescent component twice; in 1998 [14] and most recently in 2013–2014 [15]. In the recent administration, retitled the Young Minds Matter Survey [15] the prevalence of very high psychological distress, measured by the Kessler 10 (K10), and prevalence of mental health problems, measured by scores in the 'abnormal' range on the SDQ in adolescents aged 11–17 years, was indicated to be 13.3 and 10.2 % respectively. In another recent national survey, the Mission Australia Youth Survey (2013) the prevalence of probable serious mental illness in adolescents aged 15–19 years, measured using the Kessler 6 (K6), was estimated to be 21.2 % [16]. The authors could identify two further publications reporting population level prevalence data on general mental health problems for Australian adolescents collected since the year 2000, both undertaken in the state of Victoria [17, 18]. In the first, undertaken in 2001–2002 among a random sample of children and adolescents aged 7–17 years, prevalence of mental health problems, as measured by scores in the 'abnormal' range on the youth self-report SDQ, was reported to be 5.8 % [17]. In the second undertaken in 2009–2010, a larger state wide survey of adolescents aged 11–18 years, prevalence of very high psychological distress, as measured by the K6, was reported to be 13 % [18].

Three of the four recent Australian studies described above investigated mental health problems by gender and age although the findings were somewhat inconsistent: two reporting a higher prevalence for females [15, 16], and the other for males [17]; and similarly, two reporting limited variation in prevalence by age [16, 17], and the other a higher prevalence for older adolescents aged 16–17 years as compared to those aged 11–15 years [15]. Only one study, the more recent of the two conducted in Victoria, assessed differences in mental health status between rural and metropolitan areas, with no differences found [18]. Likewise only one study, one of the two

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 3 of 11

43

national surveys, examined differences by Aboriginal status, reporting a higher prevalence of mental health problems among Aboriginal adolescents [16]. None of the four studies examined prevalence of mental health status by socio-economic disadvantage.

The aims of the present study were to (1) determine the prevalence of mental health problems in a regional sample of adolescents aged 12–16 years, attending secondary schools located in disadvantaged local government areas in one local health district of NSW, Australia, and (2) investigate associations between mental health problems and a range of socio-demographic characteristics (age, gender, Aboriginal status, remoteness of residential location and socio-economic disadvantage).

Methods
Study design and setting
A cross sectional survey was undertaken in a regional local health district of New South Wales, Australia, from August to November in 2011. The region covers an area of approximately 130,000 square km [19], and consists of a large metropolitan centre, regional centres, and rural and remote communities, with an estimated population of 115,000 adolescents aged from 10 to 19 years [20]. Relative to the state of NSW, the area has a lower index of socio-economic status [20, 21], a higher proportion of people residing outside metropolitan areas, and a higher proportion of the adolescent population (10–19 years) are Aboriginal (9.6 vs 5.3 % in NSW) [20]. The survey was conducted as part of a randomised controlled trial registered with the Australia and New Zealand Clinical Trials Register (Ref no. ACTRN12611000606987) details of which are described elsewhere [22].

Ethics, consent and permissions
Ethics approval was obtained from: the Hunter New England Health Human Research Ethics Committee (Ref no. 09/11/18/4.01); The University of Newcastle Human Research Ethics Committee (Ref no. H-2010-0029); the Aboriginal Health and Medical Research Council (Ref no. 776/11); the New South Wales Department of Education and Training State Education Research Approval Process (Ref no. 2008118), and relevant Catholic Schools Offices.

Students with parental consent were invited to complete a self-report web-based survey within class time, supervised by school staff and members of the research team. Student verbal agreement to participate was required at the time of data collection.

Sample and recruitment
Secondary schools
Schools were eligible to participate in the study if they: had a student population of at least 400 students;

enrolments across Grades 7–10 (typically aged from 12 to 16 years); were co-educational; and located within a disadvantaged Local Government Area (school postcode in a Local Government Area with a score of <1000 on the Socio-Economic Indexes for Areas, SEIFA; 23). Boarding schools, central schools (catering for students aged 5–18 years), and special needs or selective schools were ineligible to participate. Forty-seven schools were eligible for participation in the trial, forty-four of which were randomly approached until a quota of 32 schools was achieved. Data for this study were collected from a sample of 21 such schools as these schools had a measure of mental health problems included in the student survey.

Student sample
All students enrolled in Grades 7–10 and aged 12–16 years were eligible to participate. Study information packs (an information letter for parents, a simplified study information letter for students, a consent form, and a reply paid envelope) were mailed to parents. Existing school communication channels were employed to promote student participation [24]. Non-responding parents were phoned by school-affiliated staff and asked to provide verbal consent or non-consent for their child to participate. For parents who provided verbal consent, a replacement study information pack was provided by mail.

Additional strategies were employed to support participation by Aboriginal students. Where possible and following approval by each school Principal, an Aboriginal member of the research team made contact with an Aboriginal staff member from each school. Additionally, the contact number of both a male and female Aboriginal member of the research team was provided in the study cover letter for parents to contact about the study. Finally, information relating to the study was presented to Aboriginal groups and services within the study area.

Measures
Mental health problems
Mental health problems were assessed using the 25-item youth self-report version of the SDQ [11].The SDQ has been identified as one of the key measurement tools for use in Australian child and adolescent mental health services [25], a tool for which normative data exists for Australian school students aged 7–17 years [17]. The SDQ consists of five subscales: emotional symptoms; conduct problems; hyperactivity/inattention; peer relationship problems; and prosocial behaviour; with each subscale containing five items in the form of statements requiring a response via a three point Likert response scale: 0 (not true); 1 (somewhat true); or 2 (certainly true) [11].

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 4 of 11

44

As well as collecting data on the mental health of adolescents through the use of the SDQ, the survey included items regarding adolescent health behaviours such as substance use, physical activity, sexual health (Grade 10 students only), and bullying. The mean survey completion time was 22.6 min (SD: 10.2) with 90 % of students completing in 30 min or less and completion of the SDQ component taking approximately 5 min of the completion time. Aboriginal students answered additional survey questions, therefore the mean completion time for Aboriginal students was 23.9 min (SD: 7.93), with 90 % of Aboriginal students completing in 33 min or less.

Student characteristics

The survey contained items relating to student age, gender, Aboriginal and/or Torres Strait Islander status ('Are you of Aboriginal or Torres Strait Islander origin?': 'Yes, Aboriginal origin'; 'Yes, Torres Strait Islander origin'; 'Yes, both Aboriginal and Torres Strait Islander origin'; 'No'), and residential postcode.

Statistical analysis

All analyses were conducted using the statistical program SAS, Version 9.3 [26].

Student characteristics Descriptive statistics were used to examine parental consent rates, student participation rates, and student demographic characteristics. Aboriginal and/or Torres Strait Islander status (hereafter referred to as Aboriginal) was based on student self-report during the survey. Participant residential postcodes were used to derive their socio-economic disadvantage score according to SEIFA; postcodes were classified into quintiles, where quintile 1 was the most disadvantaged and quintile 5 the least disadvantaged [23]. For the variable of socio-economic disadvantage, quintiles 4 and 5 were combined due to a small number of participants in quintile 5 (see Table 2). Data relating to remoteness of residential location were calculated from participants' residential postcodes based on scores of the Accessibility/Remoteness Index of Australia (ARIA) and grouped into three categories: major city; inner regional; and outer regional/remote [27].

Mental health problems Students that did not complete all 25 SDQ items were excluded from the analysis. An approach that reduces the five sub-scale structure of the SDQ to a three subscale structure has been recommended when using the SDQ in general population studies [28] and was employed in this study. Such an approach is reported to be valid [29] and to reduce measurement error [30]. The three-subscale structure involves the items from the emotional symptoms and peer relationship prob-

lems subscales being combined to form a single 'internalising' subscale (10 questions; possible score range: 0–20), and the items from the conduct problems and hyperactivity/inattention subscales being combined to form a single 'externalising' subscale (10 questions; possible score range: 0–20), with the third subscale 'prosocial behaviour' remaining unchanged (5 questions; possible range: 0–10).

Subscale scores were calculated by adding responses to each item within each subscale [28]. The total difficulties score (total SDQ; possible range: 0–40) was calculated by adding the scores of the internalising and externalising subscales only [29].

To report prevalence of mental health problems, recent recommendations from the authors of the SDQ regarding the labelling of SDQ score categories and adaptation of the categories from a three to fourfold categorisation was adopted [31]. Recommended cut points (see Table 1) were used to identify the proportions of students scoring in the following ranges: 'close to average', 'slightly raised', 'high', and 'very high', for each of the four SDQ scores [31, 32].

Investigating associations between mental health problems and socio-demographic characteristics To investigate associations between student socio-demographic characteristics and mental health problems, scores for the total SDQ and the three subscales were treated as continuous variables. Higher scores indicated greater mental health problems for total SDQ, internalising and externalising SDQ scores; and fewer problems for the prosocial behaviour scale [29, 31]. Associations between each participant socio-demographic characteristic (age, gender, Aboriginal status, remoteness of residential location and socio-economic disadvantage) and each SDQ outcome (total, externalising, internalising, and prosocial behaviour scores) were investigated using linear mixed models (20 models). For each SDQ score, all socio-demographic variables with a *p* < 0.20 were eligible to enter a backwards stepwise process, whereby non-significant variables were

Table 1 Cut-points used to report score ranges for each SDQ outcome (cut points obtained from 31, and 32)

	Score ranges			
	Close to average	Slightly raised	High	Very high
Total SDQ	0–14	15–17	18–19	20–40
Internalising problems	0–6	7–8	9	10–20
Externalising problems	0–8	9–10	11–12	13–20
Prosocial behaviour	7–10	6	5	0–4

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 5 of 11

45

removed until all remaining variables were significant at $p < 0.01$. All possible combinations of remaining variables were tested for interaction effects, in order to determine the four final linear mixed models. All models included a random effect for school, to account for clustering of responses within schools.

Results

Sample

Across the 21 schools, out of 12,134 eligible enrolled students, parental consent was granted for 9241 students (76.2 %), of whom 6879 completed the student survey (participation rate of students with parental consent 74.4 %). Hence the sample represents 56.7 % of the total enrolled student population. Participants who did not complete all the SDQ survey items were excluded from analysis (n = 86), leaving a final study sample of 6793 participants. Demographic characteristics of the sample are described in Table 2, illustrating comparability with the full school sample in the larger trial.

Mental health problems

The proportion of participants scoring in the 'close to average', 'slightly raised', 'high' and 'very high' range for mental health problems is shown in Table 3. The prevalence of participants scoring 'very high' was 19.0 % for total SDQ score, 18.0 % for internalising problems, 11.3 % for externalising problems and 8.9 % for prosocial behaviour problems. A further 7.9, 6.3, 10.9 and 11.6 % had scores in the 'high' range for each of these outcomes respectively.

Associations between mental health problems and socio-demographic characteristics

Mean scores and standard deviations for total SDQ and each of the three subscales are reported for all participants and by socio-demographic groups in Table 4. Mean total SDQ for all participants was 13.43 (SD = 6.49), with mean scores of 5.98 (SD = 3.72) for the internalising subscale, 7.45 (SD = 3.95) for the externalising subscale, and 7.19 (SD = 1.97) for the prosocial behaviour subscale.

The results of the 20 models testing for associations between each socio-demographic characteristic and SDQ score are shown in Table 4. Results of the final four linear mixed models for each SDQ score are shown in Table 5.

From the linear mixed models analyses, total SDQ score was associated with Aboriginal status, age and gender (see Table 5). Aboriginal students scored higher for mental health problems than non-Aboriginal students (β = 2.02, 95 % CI 1.49–2.55). There was a significant interaction between age and gender. Females scored higher for mental health problems than males for students aged 14 years (β = 1.16, 95 % CI 0.57–1.76), and

Table 2 Descriptive statistics of participating students demographics

Student demographic	Current sample (21 schools; n = 6793)		Full study sample (32 schools; n = 10,116)	
	n	%	n	%
Gender				
Male	3390	49.9	5061	50.0
Age				
12	829	12.2	1268	12.5
13	2008	29.6	2934	29.0
14	1799	26.5	2670	26.4
15	1484	21.8	2237	22.1
16	673	9.9	1007	10.0
Aboriginality				
Aboriginal and/or Torres Strait Islander	732	10.8	1144	11.3
Socioeconomic disadvantage[a]				
Quintile 1 (most disadvantaged)	725	10.7	1276	12.6
Quintile 2	2090	30.8	3201	31.7
Quintile 3	2781	41.0	4344	43.0
Quintile 4	1116	16.5	1211	12.0
Quintile 5 (least disadvantaged)	68	1.00	68	0.7
Remoteness (ARIA)[a]				
Major cities Australia	3311	48.8	4892	48.4
Inner regional Australia	2611	38.5	4119	40.8
Outer regional/remote Australia	860	12.7	1094	10.8

Relative to the state of NSW, both the current study sample and wider study region have a similar gender composition for the adolescent population (49.9, 51.5 and 51.5 % male; current sample, region and state respectively), however have a lower index of socio-economic status [20, 21], a higher proportion of people residing outside metropolitan areas, and a higher proportion of the adolescent population (10–19 years) are Aboriginal (10.8, 9.6 and 5.3 %; current sample, region and state respectively) [20]

[a] Sample size varied due to missing data

Table 3 Prevalence of scores in the 'close to average', 'slightly raised', 'high' and 'very high' range for total SDQ and three SDQ subscales

Score range	Outcome (N = 6973)			
	Total SDQ	Internalising	Externalising	Prosocial
	n (%)	n (%)	n (%)	n (%)
Close to average	4041 (59.5)	4074 (60.0)	4185 (61.6)	4400 (64.8)
Slightly raised	927 (13.6)	1074 (15.8)	1099 (16.2)	1001 (14.7)
High	533 (7.9)	425 (6.2)	742 (10.9)	786 (11.6)
Very high	1292 (19.0)	1220 (18.0)	767 (11.3)	606 (8.9)

15 years (β = 2.28, 95 % CI 1.62–2.94), with mean difference greatest at 15 years; there was no significant gender difference for students aged 12 years (β = −0.36, 95 % CI

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 6 of 11

46

Table 4 Mean scores and standard deviations for total SDQ, internalising, externalising and prosocial SDQ subscales by socio-demographic factors

		Outcome			
		Total SDQ (0–40)	Internalising (0–20)	Externalising (0–20)	Prosocial (0–10)
	n	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
All	6793	13.43 (6.49)	5.98 (3.72)	7.45 (3.95)	7.19 (1.97)
Gender		$p < 0.0001$	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$
Male	3390	12.96 (6.34)	5.31 (3.57)	7.64 (3.92)	6.72 (2.04)
Female	3403	13.90 (6.61)	6.64 (3.74)	7.25 (3.97)	7.66 (1.78)
Age		$p < .01$	$p < 0.01$	$p = 0.06$	$p = 0.25$
12	829	13.12 (6.48)	5.78 (3.61)	7.35 (4.02)	7.34 (1.93)
Male	360	13.31 (6.23)	5.39 (3.43)	7.91 (3.93)	6.94 (1.99)
Female	469	12.98 (6.66)	6.07 (3.73)	6.91 (4.03)	7.65 (1.82)
13	2008	13.15 (6.45)	5.79 (3.64)	7.36 (3.94)	7.20 (1.89)
Male	1024	13.03 (6.41)	5.42 (3.63)	7.61 (3.87)	6.77 (1.93)
Female	984	13.28 (6.49)	6.18 (3.61)	7.10 (4.01)	7.64 (1.75)
14	1799	13.52 (6.54)	5.97 (3.74)	7.54 (4.00)	7.15 (2.08)
Male	885	12.93 (6.41)	5.21 (3.55)	7.72 (4.05)	6.56 (2.18)
Female	914	14.09 (6.62)	6.72 (3.77)	7.38 (3.94)	7.71 (1.80)
15	1484	13.94 (6.46)	6.30 (3.82)	7.64 (3.85)	7.14 (1.97)
Male	736	12.79 (6.15)	5.19 (3.52)	7.60 (3.82)	6.68 (2.05)
Female	748	15.07 (6.56)	7.39 (3.78)	7.69 (3.89)	7.60 (1.77)
16	673	13.25 (6.53)	6.10 (3.74)	7.15 (3.95)	7.21 (1.94)
Male	385	12.83 (6.44)	5.44 (3.67)	7.39 (3.95)	6.85 (1.96)
Female	288	13.81 (6.62)	6.97 (3.66)	6.83 (3.94)	7.70 (1.80)
Aboriginality		$p < 0.0001$	$p < 0.0001$	$p < 0.0001$	$p < 0.001$
Aboriginal and/or Torres Strait Islander	732	15.41 (6.69)	6.70 (3.87)	8.71 (4.01)	6.90 (2.07)
Non-Aboriginal	6061	13.19 (6.43)	5.89 (3.69)	7.30 (3.92)	7.23 (1.95)
Socioeconomic Disadvantage (SED)[a]		$p = 0.09$	$p = 0.17$	$p = 0.26$	$p = 0.43$
Quintile 1 (most disadvantaged)	725	13.22 (6.69)	5.88 (3.76)	7.34 (4.04)	7.12 (1.96)
Quintile 2	2090	13.62 (6.41)	6.11 (3.67)	7.52 (3.93)	7.21 (1.94)
Quintile 3	2781	13.55 (6.48)	6.01 (3.75)	7.53 (3.94)	7.18 (2.00)
Quintile 4 and 5	1184	12.89 (6.50)	5.71 (3.68)	7.18 (3.91)	7.24 (1.96)
Quintile 4	1116	12.97 (6.49)	5.75 (3.65)	7.23 (3.93)	7.20 (1.97)
Quintile 5 (least disadvantaged)	68	11.57 (6.60)	5.15 (4.17)	6.43 (3.52)	7.91 (1.70)
Remoteness (ARIA)		$p = 0.63$	$p = 0.25$	$p = 0.97$	$p = 0.29$
Major cities Australia	3311	13.50 (6.55)	6.06 (3.77)	7.45 (3.96)	7.24 (1.97)
Inner regional Australia	2611	13.35 (6.46)	5.91 (3.66)	7.44 (3.97)	7.18 (1.97)
Outer regional/remote Australia	860	13.34 (6.35)	5.86 (3.65)	7.48 (3.86)	7.00 (1.95)

[a] For all statistical analyses quintiles 4 and 5 were combined due to a small sample distribution of participants and schools in quintile 5

−1.25 to 0.53), 13 years (β = 0.29, 95 % CI −0.27 to 0.86), and 16 years (β = 0.95, 95 % CI −0.04 to 1.93).

Internalising problems was associated with Aboriginal status, age and gender. Aboriginal students scored higher for internalising problems than non-Aboriginal students (β = 0.70, 95 % CI 0.40–1.00). There was a significant interaction between age and gender. Females scored higher for internalising problems than males for all age groups, with mean difference varying by age and greatest

at age 15: 12 years (β = 0.66, 95 % CI 0.16–1.16), 13 years (β = 0.78, 95 % CI 0.46–1.10), 14 years (β = 1.50, 95 % CI 1.16–1.84), 15 years (β = 2.19, 95 % CI 1.82–2.57) and 16 years (β = 1.51, 95 % CI 0.95–2.07).

Externalising problems was associated with Aboriginal status and gender. Aboriginal students scored higher for externalising problems than non-Aboriginal students (β = 1.33, 95 % CI 1.01–1.66), and females scored lower for externalising problems than males (β = −0.39, 95 %

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 7 of 11

47

Table 5 Results of final linear mixed models of socio-demographics by mental health problems

	Total SDQ (0–40)	Outcome Internalising (0–20)	Externalising (0–20)	Prosocial (0–10)
	Mean difference (95 % CI)	Mean difference (95 % CI)	Mean difference (95 % CI)	Mean difference (95 % CI)
Gender	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$
Female	0.95 (−0.09 to1.98)	1.51 (0.92 to 2.10)	−0.39 (−0.58 to −0.19)	0.93 (0.83 to 1.02)
Male	–	–	–	–
Age	$p < .01$	$p < .001$	n.s.	n.s.
12	0.45 (−0.48 to 1.38)	−0.05 (−0.58 to 0.48)		
13	0.10 (−0.66 to 0.86)	−0.06 (−0.50 to 0.37)		
14	0.04 (−0.73 to 0.82)	−0.25 (−0.69 to 0.19)		
15	−0.15 (−0.94 to 0.65)	−0.29 (−0.74 to 0.16)		
16	–	–		
Age × gender	$p < .0001$	$p < .0001$	n.s.	n.s.
12 × female	−1.31 (−2.64 to −0.02)	−0.85 (−1.60 to −0.10)		
Female	*−0.36 (−1.25 to 0.53)*	*0.66 (0.16 to 1.16)*		
13 × female	−0.65 (−1.79 to 0.48)	−0.73 (−1.37 to −0.08)		
Female	*0.29 (−0.27 to 0.86)*	*0.78 (0.46 to 1.10)*		
14 × female	0.22 (−0.94 to 1.37)	−0.01 (−0.66 to 0.65)		
Female	*1.16 (0.57 to 1.76)*	*1.50 (1.16 to 1.84)*		
15 × female	1.33 (0.14 to 2.52)	0.68 (0.01 to 1.35)		
Female	*2.28 (1.62 to 2.94)*	*2.19 (1.82 to 2.57)*		
16 × Female	–	–		
Female	*0.95 (−0.04 to 1.93)*	*1.51 (0.95–2.07)*		
Aboriginality	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$	$p < 0.001$
Aboriginal and/or Torres Strait Islander	2.02 (1.49 to 2.55)	0.70 (0.40 to 1.00)	1.33 (1.01 to 1.66)	−0.27 (−0.43 to −0.12)
Non-Aboriginal	–	–	–	–

For all analyses in table a statistical significance level of $p \leq 0.05$ was assumed. Non-significant associations are indicated in the table using n.s. For n relating to all subscales please refer to Table 4

CI −0.58 to −0.19). No significant interactions were found.

Prosocial behaviour was associated with Aboriginal status and gender. Aboriginal students scored lower for prosocial behaviour than non-Aboriginal students ($\beta = −0.27$, 95 % CI −0.43 to −0.12) and females scored higher for prosocial behaviour than males ($\beta = 0.93$, 95 % CI 0.83–1.02). No significant interactions were found.

Using linear mixed models, ad hoc analyses were conducted to further explore the pattern of results for Aboriginal and non-Aboriginal students. The analyses examined whether the association between Aboriginality and SDQ score held for the four component subscales of the broader internalising problems score (emotional symptoms, and peer relationship problems) and externalising problems score (conduct problems and hyperactivity/inattention). Aboriginal students scored higher than non-Aboriginal students across all component subscales (emotional symptoms $p < 0.01$, peer relationship problems $p < 0.0001$, conduct problems $p < 0.0001$, and hyperactivity/inattention $p < 0.0001$).

Discussion

This study aimed to examine both the prevalence of, and a range of possible socio-demographic characteristics associated with mental health problems in a regional population of adolescents aged 12–16 years, attending secondary schools located in disadvantaged local government areas in one local health district in NSW, Australia. The results indicated nearly one-fifth (19 %) of the sampled adolescents scored in the 'very high' range for mental health problems overall, and slightly more than one quarter scored 'high' or 'very high' combined (27 %). Aboriginal students consistently scored higher for mental health problems for all outcome measures than non-Aboriginal students. Gender was associated with all outcome measures, with females scoring higher for total and internalising problems, and males scoring higher for externalising and lower for prosocial behaviour. Such findings may suggest a need for strategies to prevent and respond to mental health problems among young adolescents, particularly those with higher levels of mental health problems.

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 8 of 11

48

The finding that 19 % of students in the present sample scored 'very high' for mental health problems contrasts somewhat with two other surveys in Australia utilising the same measurement tool. A study of Victorian secondary school students aged 7–17 years conducted in 2001–2002 found that 5.8 % of Victorian school students were classified as 'abnormal', with this classification being equivalent to the 'very high' score range used in the present study [17]. Likewise, for total SDQ, Mellor et al. [17] reported a mean score of 8.9 for students aged 11–17 years, compared to a mean score of 13.4 in the current study for students aged 12–16 years. The most recent national survey conducted in 2013–2014 found 10.2 % of adolescents aged 11–17 years to fall into the 'abnormal' score range [15]; somewhat higher than the finding of Mellor [17] (5.8 %), but not as high as the prevalence of scores in the 'very high' range indicated in the current study (19 %).

A number of possible explanations may account for the different findings between these studies: an increase over time in the prevalence of mental health problems among adolescents; differences in the ages of students included in each study (7–17 years for Mellor, 11–17 years for Lawrence et al., and 12–16 years for the present study); differences in methods of administration, such as the use of online survey completion in the present study; and the focus of the present study on schools in disadvantaged local government areas within one local health district.

Aboriginal students were consistently found to score higher across all four SDQ outcomes, and also when compared on the smaller sub-scales. This finding aligns with previous studies indicating a higher prevalence of mental health difficulties among Aboriginal people generally [33] and among Aboriginal adolescents in particular [16, 34, 35]. Inequitable health outcomes are experienced by Aboriginal and/or Torres Strait Islander peoples for many health conditions, both physical and mental [36]. The markedly poorer health status of Aboriginal and/or Torres Strait Islander peoples has been attributed to a number of factors including, dispossession from land, government policies (e.g. stolen generation), experience of individual and institutional racism, and a lack of adequate access to education, housing and employment, and appropriate physical and mental health care services [37], similar to the health of other Indigenous peoples internationally [38]. It is important to consider how the above disadvantage and trans-generational trauma and loss has impacted on the social and emotional wellbeing of Aboriginal people including Aboriginal young people. However, it is equally as important to highlight resilience and strengths within Aboriginal individuals and communities including strong family and interpersonal relationships,

maintenance of a unique cultural identity and connection, and the development of coping skills [37].

The finding of the present study that a greater proportion of female than male adolescents scored higher on the total SDQ score is consistent with results of the recent national study by Lawrence et al. [15], although not with the findings of Mellor [17], which found males scored higher in a sample of Victorian adolescents. The finding that female adolescents scored higher for internalising problems than males is consistent with both the previous studies utilising the SDQ in Australian samples, which indicate a higher prevalence of problems such as emotional symptoms for females compared to males [15, 17]. Likewise, the finding that male adolescents scored higher for externalising problems, is consistent with both previous studies which found males to have a greater prevalence of problems such as conduct problems and hyperactivity [15, 17]. For prosocial behaviour, the finding that females scored higher than males is consistent with the only other study reporting prevalence of prosocial behaviour problems for this age group in a sample of Australian adolescents [17]. Internationally, research utilising both the SDQ [39] and a range of other measures [40] also provides support for such differences in prevalence of internalising, externalising and prosocial behaviour problems by gender. Finally, the interaction results for the total SDQ and internalising problem scores in the present study, may suggest further investigation is required to fully understand gender and age differences in mental health problems in adolescents residing in the study region.

In accordance with previous research in Australia, the present study found no significant variation in the mental health of young people by socio-economic status and geographic location of residence [13, 18, 41]. Such findings are in contrast to international research indicating variation in the mental health status of adolescents by socio-economic status, with poorer mental health being evident for adolescents of lower socio-economic status [4, 42]. This differential may be explained by the recruitment in this study of students from schools in socio-economically disadvantaged areas or the use of an aggregate area-based measure of socio-economic disadvantage, not an individual-based measure. The finding of no differences in outcomes by geographic location of residence may also be attributable in part to the study being conducted largely in regional and rural areas, and thus being less representative of adolescents residing in metropolitan regions.

The findings of significant variation in mental health problems between groups of adolescents strengthen the need for the establishment of normative data for mental health problems in adolescents to be developed for

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 9 of 11

49

Aboriginal and non-Aboriginal Australians, as well as for specific age and gender groups [17] as addressed in this study. The SDQ provides a basis for achieving this given the availability of a validated youth focused version of the tool and the existence of recommendations for the use of the SDQ in Australian child and adolescent mental health services [25]. However, fundamental differences in what the concept of mental health means for non-Aboriginal and Aboriginal people [43], may limit the appropriateness of the SDQ for Aboriginal young people. The term 'social and emotional well-being' has been used to describe the mental health of Aboriginal people, as it is a broad holistic term representing mental health as incorporating not only individual factors but additionally including wider factors such as cultural identification, spirituality and the community [35, 44]. The SDQ has been developed and validated with non-Aboriginal people and hence may not reflect the Aboriginal perspective of mental health. Three studies have assessed the appropriateness of the carer-report version of the SDQ with Aboriginal young people [45–47]. Whilst each of these studies suggests the SDQ to be, to an extent, an acceptable tool for the measurement of the mental health of Aboriginal people, all encourage further development of the tool to improve cultural appropriateness and clarity [45–47].

In addition to the limitations of the SDQ as a measure of the mental health of Aboriginal young people, interpretation of the study findings should be considered in light of a number of its design and methodological characteristics. First, the study was conducted using the self-report version of the SDQ. Previous research has suggested that exclusive reliance on adolescent self-report may result in under-reporting of mental health problems [11]. As a consequence, the observed prevalence of mental health problems may be an underestimate. Second, non-response bias is a common limitation of school-based research particularly due to absenteeism, refusals, and the additional need to obtain parental consent [48]. Thus whilst the parental consent rate and participation rate among students with parental consent were relatively high (76.2 and 74.4 % respectively), concerns remain about loss of 'high-risk' youth and subsequent possible underreporting of the prevalence of mental health problems in this group. Third, a number of factors may have influenced generalisability of the study findings. The data was obtained from baseline assessment for a larger intervention trial and SDQ data could only be obtained from 21 of 32 schools randomly selected for the larger trial, however student demographic characteristics are comparable to the full trial sample [22]. Additionally, the study was conducted in a single region within one Australian state. However, characteristics of the current sample are similar to that of the region in which the study was conducted in terms of socio-economic disadvantage, remoteness of residential location, gender and Aboriginality [49], supporting the demographic composition of the current sample as representative of the study region. In contrast, relative to the state of NSW, both the current sample and study region has a lower index of socio-economic status [20, 21], and a higher proportion of the adolescent population are Aboriginal [20]. Similarly, relative to the total population of young people in Australia the present study had a larger proportion of Aboriginal students and students from outside metropolitan areas [13, 50].

Conclusions

In conclusion, the findings of the present study may suggest a need for tailored interventions for groups of adolescents with highest level of mental health problems. The current findings reinforce results of previous research [15, 17] in suggesting a need to target overall and internalising mental health problems in female students; and externalising problems and pro-social behaviour in males. Additionally, there remains a clear need for the development and validation of culturally appropriate measures of mental health for use with Aboriginal young people. Culturally appropriate measures would enable a more accurate indication of level of social and emotional health in Aboriginal adolescents, and better inform the need for any additional support. This will require active collaboration with Aboriginal community representatives and participation of Aboriginal researchers, to develop measurement tools and research methodology fully representative of factors considered as key indicators of the holistic concept of Aboriginal social and emotional well-being [51, 52].

Author details
[1] Hunter New England Population Health Research Group, Hunter New England Local Health District, Wallsend, NSW, Australia. [2] Faculty of Science and IT, School of Psychology, University of Newcastle, University Drive, Callaghan,

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 10 of 11

50

NSW, Australia. [3] Faculty of Health and Medicine, School of Medicine and Public Health, University of Newcastle, University Drive, Callaghan, NSW, Australia. [4] Hunter Medical Research Institute, New Lambton Heights, NSW, Australia.

Competing interests
The authors declare that they have no competing interests.

Availability of data and material
The datasets generated and analysed during the current study are not publicly available to preserve the privacy of participants, however are available from the chief investigator Prof John Wiggers on reasonable request.

Ethics approval and consent to participate
Ethics approval was obtained from: the Hunter New England Health Human Research Ethics Committee (Ref no.09/11/18/4.01); The University of Newcastle Human Research Ethics Committee (Ref no. H-2010-0029); the Aboriginal Health and Medical Research Council (Ref no. 776/11); the New South Wales Department of Education and Training State Education Research Approval Process (Ref no. 2008118), and relevant Catholic Schools Offices. Signed parental consent for student participation was obtained. Additionally, student verbal agreement to participate was required at the time of data collection.

References
1. Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, Rohde LA, Srinat S, Ulkuer N, Rahman A. Child and adolescent mental health worldwide: evidence for action. Lancet. 2011;378(9801):1515–25.
2. Lopez AD. Disease control priorities project. Global burden of disease and risk factors. New York: Oxford University Press, Washington, DC: World Bank; 2006.
3. Belfer ML. Child and adolescent mental disorders: the magnitude of the problem across the globe. J Child Psychol Psychiatry. 2008;49(3):226–36.
4. Rajmil L, López-Aguilà S, Mompart Penina A, Medina Bustos A, Rodríguez Sanz M, Brugulat Guiteras P. Socio-economic inequalities in children's mental health in Catalonia. Anales de Pediatria (Barcelona, Spain: 2003). 2010;73(5):233–40.
5. Green H, McGinnity A, Meltzer H, Ford T, Goodman R. Mental health of children and young people in Great Britain, 2004. London: Office of National Statistics, The Stationary Office; 2005.
6. Braddick F, Carral V, Jenkins R, Jané-Llopis E. Child and adolescent mental health in Europe: Infrastructures, Policy and Programmes. Luxembourg: European Communities; 2009.
7. Erskine HE, Baxter AJ, Patton G, Moffitt TE, Patel V, Whiteford HA, Scott JG. The global coverage of prevalence data for mental disorders in children and adolescents. Epidemiol Psychiatr Sci. 2016;1:1–8.
8. World Health Organisation. Health for the world's adolescents. A second chance in the second decade. Geneva: World Health Organisation; 2014.
9. Parry-Langdon N. Three years on: survey of the development and emotional well-being of children and young people. Office of Public Sector Information, Crown copyright: Kew, Richmond, Surrey: Office of National Statistics; 2008.
10. Pastor PN, Reuben CA, Duran CR. Identifying emotional and behavioural problems in children aged 4–17 years: United States, 2001–2007. National health statistics report. Washington, D.C: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.
11. Goodman R, Meltzer H, Bailey V. The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version. Eur Child Adolesc Psychiatry. 1998;7(3):125–30.
12. Goodman R. Psychometric properties of the Strengths and Difficulties Questionnaire. J Am Acad Child Adolesc Psychiatry. 2001;40(11):1337–45.
13. Australian Institute of Health and Welfare. Young Australians: Their health and wellbeing. Canberra: Australian Institute of Health and Welfare; 2011.
14. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, Nurcombe B, Patton GC, Prior MR, Raphael B et al. Mental health of young people in Australia: child and adolescent component of the National Survey of Mental Health and Well-being. Canberra: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care; 2000.
15. Lawrence D, Johnson S, Hafekost J, Boterhoven de Haan K, Sawyer M, Ainley J, Zubrick SR. The mental health of children and adolescents: Report on the second Australian child and adolescent survey of mental health and wellbeing. Canberra: Department of Health; 2015.
16. Ivancic L, Perrens B, Fildes J, Perry Y, Christensen H: Youth Mental Health Report, June 2014. Australia: Mission Australia and Black Dog Institute; 2014.
17. Mellor D. Normative data for the Strengths and Difficulties Questionnaire in Australia. Aust psychol. 2005;40(3):215–22.
18. Gathering New Data. The Victorian adolescent health and wellbeing survey (VAHWS). Victorian Department of Education and Early Childhood Development, Australia. [http://www.education.vic.gov.au/about/research/pages/newdata.aspx].
19. NSW Ministry of Health: annual report 2010/11: NSW Health Districts, vol. 2. Sydney: NSW Ministry of Health; 2011. p. 82–89.
20. Centre for Epidemiology and Evidence: HealthStats NSW. Sydney: NSW Ministry of Health. 2011. http://www.healthstats.nsw.gov.au. Accessed 28th Jul 2016.
21. Hunter New England Central Coast Primary Health Network. Hunter New England Central Coast Primary Health Network: Health Planning Compass. Erina: Hunter New England Central Coast Primary Health Network; 2015.
22. Dray J, Bowman J, Freund M, Campbell E, Wolfenden L, Hodder RK, Wiggers J. Improving adolescent mental health and resilience through a resilience-based intervention in schools: study protocol for a randomised controlled trial. Trials. 2014; 15(289).
23. Trewin D. Information paper census of population and housing socio-economic indexes for areas: Australia 2001. Canberra: Australian Bureau of Statistics: Commonwealth of Australia; 2003.
24. Wolfenden L, Kypri K, Freund M, Hodder R. Obtaining active parental consent for school-based research: a guide for researchers. Aust N Z J Public Health. 2009;33(3):270–5.
25. Department of Health and Ageing: Mental Health National Outcomes and Casemix Collection: Overview of clinician-rated and consumer self-report measures, Version 1.50. Canberra: Department of Health and Ageing; 2003.
26. SAS Institute Inc. SAS Software Version 9.3 for windows. Carry: SAS Institute Inc; 2011.
27. Department of Health and Aged Care. Measuring remoteness: accessibility/remoteness index of Australia (ARIA). Canberra: Australian Government; 2001.
28. Goodman A, Lamping DL, Ploubidis GB. When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): data

Dray *et al. Child Adolesc Psychiatry Ment Health* (2016) 10:32

Page 11 of 11

51

from British parents, teachers and children. J Abnorm Child Psychol. 2010;38(8):1179–91.

29. Goodman A, Goodman R. Strengths and Difficulties Questionnaire as a dimensional measure of child mental health. J Am Acad Child Adolesc Psychiatry. 2009;48(4):400–3.

30. Yang S, Tilling K, Martin R, Davies N, Ben-Shlomo Y, Seligman MEP. Prenatal and post-natal growth trajectories and childhood cognitive ability and mental health. Int J Epidemiol. 2011;40(5):1215–26.

31. Goodman A, Lamping DL, Ploubidis GB. Supplementary material (extended 1) to: Goodman A, Lamping DL, Ploubidis GB. A reappraisal of the factor structure of the Strengths and Difficulties Questionnaire (SDQ): Data from British parents, teachers and children. http://www.sdqinfo-com/point_by_pointpdf. 2014.

32. YouthInMind: scoring the strengths and difficulties questionnaire for age 4–17. 2014. http://www.sdqinfocom/py/sdqinfo/b3py?language=Englishqz%28Austral%29.

33. Adult Health: psychological distress [http://www.abs.gov.au/AUSSTATS/abs@.nsf/lookup/4704.0Chapter715Oct+2010].

34. Gabriel A, Hecker M, Hurle J, Leaf T, Woolley B, Farooqui A, Hayes L, McLaughlin J, Molaeb H, Caruso A et al. The state of Victoria's children 2009: Aboriginal children and young people in Victoria. In. Victoria, Australia: The Department of Education and Early Childhood Development in collaboration with the Department of Human Services, Department of Health, Department of Planning and Community Development and the Department of Justice (including Victoria Police). 2009: 193.

35. Zubrick SR, Silburn SR, Lawrence DM, Mitrou FG, Dalby RB, Blair EM, Griffin J, Milroy H, de Maio J, Cox A et al. The Western Australian aboriginal child health survey: the social and emotional wellbeing of aboriginal children and young people, vol. 2. Perth: Curtin University of Technology and Telethon Institute for Child Health Research; 2005.

36. Department of Families Housing Community Services and Indigenous Affairs. Closing the gap on indigenous disadvantage: the challenge for Australia. Canberra: Commonwealth of Australia; 2009.

37. Telethon Institute for Child Health Research/Kulunga Research Network and the University of Western Australia. Working together: aboriginal and torres strait islander mental health and wellbeing principles and practice, 2nd edn. Barton: Commonwealth of Australia; 2014.

38. World Health Organisation. The mental health of indigenous peoples: an international overview. Cohen A, editors. Geneva: Department of Mental Health, World Health Organisation; 1999.

39. Muris P, Meesters C, van den Berg F. The Strengths and Difficulties Questionnaire (SDQ): further evidence for its reliability and validity in a community sample of Dutch children and adolescents. Eur Child Adolesc Psychiatry. 2003;12:1–8.

40. Rescorla L, Achenbach TM, Ivanova MY, Dumenci L, Almqvist F, Bilenberg N, Bird H, Broberg A, Dobrean A, Döpfner M, et al. Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries. J Consult Clin Psychol. 2007;75(2):351–8.

41. Murray G, Judd F, Jackson H, Fraser C, Komiti A, Hodgins G, Pattison P, Humphreys J, Robins G. Rurality and mental health: the role of accessibility. Aust N Z J Psychiatry. 2004;38(8):629–34.

42. Reiss F. Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. Soc Sci Med. 2013;90(1):24–31.

43. Australian Institute of Health and Welfare. Measuring the social and emotional wellbeing of Aboriginal and Torres Strait Islander Peoples. Cat. no. IHW 24. Canberra: AIHW; 2009.

44. Jorm AF, Bourchier SJ, Cvetkovski S, Stewart G. Mental health of Indigenous Australians: a review of findings from community surveys. Med J Aust. 2012;196(2):118–21.

45. Zubrick SR, Lawrence D, de Maio J, Biddle N. Testing the reliability of a measure of Aboriginal Children's Mental Health: An analysis based on the Western Australian Aboriginal Child Health Survey. Canberra: Australian Bureau of Statistics; 2006.

46. Williamson A, Redman S, Dadds M, Daniels J, D'Este C, Raphael B, Eades S, Skinner T. Acceptability of an emotional and behavioural screening tool for children in Aboriginal Community Controlled Health Services in urban NSW. Aust N Z J Psychiatry. 2010;44(10):894–900.

47. Williamson A, McElduff P, Daniels J, Eades S. The construct validity of the Strengths and Difficulties Questionnaire for Aboriginal children living in urban New South Wales, Australia. Aust Psychol. 2014;49(3):163–70.

48. Esbensen FA, Melde C, Taylor TJ, Peterson D. Active parental consent in school-based research: how much is enough and how do we get it? Eval Rev. 2008;32(4):335–62.

49. Health status [http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1301.0~2012~Main%20Features~Health%20status~229].

50. Muir K, Mullan K, Powell A, Flaxman S, Thompson D, Griffith M. State of Australia's Young People: A report on the social, economic, health and family lives of young people. NSW: Australian Government: Office for Youth, Commonwealth of Australia; 2009.

51. Newton D, Day A, Gillies C, Fernandez E. A review of evidence-based evaluation of measures for assessing social and emotional well-being in Indigenous Australians. Aust Psychol. 2015;50(1):40–50.

52. Tomyn AJ, Fuller Tyszkiewicz MD, Norrish JM. The psychometric equivalence of the personal wellbeing index school-children for Indigenous and non-Indigenous Australian adolescents. J Happiness Stud. 2014;15(1):43–56.

SYSTEMATIC REVIEW OF UNIVERSAL RESILIENCE INTERVENTIONS TARGETING CHILD AND ADOLESCENT MENTAL HEALTH IN THE SCHOOL SETTING: REVIEW PROTOCOL

CHAPTER 3

Systematic Reviews

PROTOCOL   **Open Access**

CrossMark

Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting: review protocol

Julia Dray[1,2,3*], Jenny Bowman[2,3], Luke Wolfenden[1,2,3], Elizabeth Campbell[1,2,3], Megan Freund[2,3], Rebecca Hodder[1,2,3] and John Wiggers[1,2,3]

Abstract

Background: The mental health of children and adolescents is a key area of health concern internationally. Previous empirical studies suggest that resilience may act as a protective mechanism towards the development of mental health problems. Resilience refers to the ability to employ a collection of protective factors to return to or maintain positive mental health following disadvantage or adversity. Schools represent a potential setting within which protective factors of all children and adolescents may be fostered through resilience-focussed interventions. Despite this potential, limited research has investigated the effectiveness of universal school-based resilience-focussed interventions on mental health outcomes in children and adolescents. The objective of the present review is to assess the effects of universal school-based resilience-focussed interventions, relative to a comparison group, on mental health outcomes in children and adolescents.

Methods/design: Eligible studies will be randomised (including cluster-randomised) controlled trials of universal interventions explicitly described as resilience-focussed or comprising strategies to strengthen a minimum of three internal protective factors, targeting children aged 5 to 18 years, implemented within schools, and reporting a mental health outcome. Screening for studies will be conducted across six electronic databases: MEDLINE, PsycINFO, Educational Resources Information Center (ERIC), Excerpta Medica database (EMBASE), Cumulative Index to Nursing and Allied Health Literature (CINAHL), and the Cochrane Central Register of Controlled Trials (CENTRAL). Two reviewers will retrieve eligible articles, assess risk of bias, and extract data. Where studies are sufficiently homogenous and reported outcomes are amenable for pooled synthesis, meta-analysis will be performed. Narrative description will be used to synthesise trial outcome data where data cannot be combined or heterogeneity exists.

Discussion: This review will aid in building an evidence base for the effectiveness of universal school-based resilience-focussed interventions and in doing so provide an opportunity to better inform the development of interventions to potentially prevent mental health problems in child and adolescent populations.

Systematic review registration: PROSPERO CRD42015025908

Keywords: Mental health, Adolescent, Child, Resilience, Intervention, School, Protective factors

* Correspondence: julia.dray@uon.edu.au
[1]Hunter New England Population Health, Hunter New England Local Health District, Locked Bag 10, Wallsend, NSW 2287, Australia
[2]The University of Newcastle, Callaghan, NSW 2308, Australia
Full list of author information is available at the end of the article

Dray *et al. Systematic Reviews* (2015) 4:186

Page 2 of 8

54

Background

The mental health of children and adolescents has been identified internationally [1–3] as a priority area for additional research and government action. Worldwide, the prevalence of mental health problems in children and adolescents is reported to be between 10 and 20 % [4]. Additionally, a higher prevalence of mental health problems is generally reported for particular sub-populations of young people, including those of lower socio-economic status [5–7], belonging to minority ethnic groups [8, 9], and young people living in more rural or remote areas [10]. Mental health problems in adolescents have been shown to increase the risk of negative outcomes such as disability, loss of productivity and contribution to the community, lower educational achievement, higher likelihood of engagement in health risk behaviours, and higher rates of self-harm and suicide [11, 12]. Across international literature, the mental health problems reported to be most prevalent and have the greatest impact on children and adolescents are depression, anxiety, disruptive behaviour disorders, attention deficit hyperactivity disorder, and substance use disorders [13–20].

Previous research provides support for the premise that resilience may be protective against the development of mental health problems [21–23]. Despite recent growth in the field of resilience research, the terminology used to describe the concept of resilience, and the qualities that constitute the process or outcome, continue to vary greatly [24], and there is no universally employed operationalization [25]. However, it is suggested by prominent researchers that 'resilience' is a collection of protective factors (resources and assets) that when strengthened and employed by an individual during times of disadvantage or adversity promote desirable outcomes such as the maintenance of or return to positive mental health or the prevention of negative mental health outcomes [25, 26]. Studies have found high levels of protective factors, such as personal and social competence, perceived level of family cohesion, and social resources, to be associated with positive mental health outcomes such as reduced symptoms or levels of depression [21–23], anxiety, stress, and obsessive compulsive disorder in adolescents [22].

Resilience-focussed interventions seek to strengthen protective factors and in doing so foster the development of coping mechanisms and positive mental health [27]. Protective factors have been defined as factors that alter, in a positive direction, the manner in which a person responds to disadvantage or adversity [28, 29], and are often perceived to incorporate both internal factors that reside within the individual (such as self-efficacy, coping skills, and effective problem solving) and external factors that include characteristics of the wider social environment (such as family and peer relationships, and support and meaningful participation within home, school, or community environments) [23, 27, 30, 31]. Universal interventions are those that target whole populations or groups of adolescents not identified as having or being at-risk of mental health problems [32]. Thus, universal interventions are a potential platform for addressing key health issues such as mental health problems in adolescents at a population level. Schools offer an opportune setting for the implementation of universal resilience-focussed interventions as they provide centralised access to large numbers of children and adolescents over long periods of time, at a critical time in child development, and have existing resources and infrastructure to support child development [33, 34]. A number of universal resilience-focussed interventions targeting mental health outcomes such as the overall improvement of mental health or reduction in the prevalence of mental health problems in children and adolescents have been conducted and reported to have positive effects [23, 35].

Two recent reviews have been conducted on the effectiveness of resilience-focussed interventions on various outcomes in adults [36, 37]. The first, a review by Macedo et al., included randomised, non-randomised, and open-ended studies of interventions aimed at promoting resilience. The review included 13 studies and found most interventions to have reported an increase in resilience variables for non-clinical samples of adults [36]. No mental health outcomes were reported in the review. The second review by Leppin et al. included only randomised controlled trials. The review included 25 trials and found a modest but consistent effect of resiliency training programs on enhancing resilience and in improving mental health outcomes including stress and depression [37].

However, existing systematic reviews of resilience-focussed interventions in children and adolescents are limited and have not synthesised the body of evidence regarding the impact of universal school-based resilience-focussed interventions on mental health outcomes. A meta-analysis of 17 controlled evaluations of one cognitive behavioural intervention in schools targeting resilience factors in children and adolescents, the PENN Resiliency Program, indicated positive results in terms of reduction of depressive symptoms for both universal (6 trials) and targeted (11 trials) application of the intervention [38]. However, as stated, the review focused on only one particular intervention on the single outcome of depressive symptoms and thus did not synthesise evidence on the impact of multiple resilience-focussed interventions on mental health outcomes in children and adolescents. Additionally, a more recent review by Brownlee et al. [39] aimed to identify outcome literature relating to strength-based and resilience-based interventions relevant to children and adolescents and examine the extent to which such trials utilised controlled empirical methodology. Eleven eligible trials were identified, with three conducted using rigorous experimental methods and eight using moderate or weak

Dray *et al. Systematic Reviews* (2015) 4:186

Page 3 of 8

55

level experimental methods [39]. The review concluded that the studies provided preliminary support for the efficacy of strength and resilience-based interventions. However, the review was not limited to studies in a school setting, did not report the effects by this setting, did not focus on universal interventions, indicated no restriction on reported comparator or outcome, and therefore did not specifically report mental health outcomes [39].

Given the potential for such interventions and the limitations of previous systematic reviews in this area, a review of the effectiveness of universal school-based resilience-focussed interventions on mental health outcomes in children and adolescents is warranted.

Objective

The aim of the review is to assess the effects of universal (interventions targeted to the whole student population or entire groups of students not identified as having or being at-risk of mental health problems) school-based resilience-focussed interventions relative to a comparison group on mental health outcomes in children and adolescents aged 5 to 18 years.

Methods
Eligibility criteria
Study characteristics

Participants Studies will be eligible for inclusion if they report on children or adolescents aged 5 to 18 years of age attending school. Studies including participants outside this age range will be included only if the mean age of participants at the time of enrolment in the study is between 5 and 18 years. Studies that select participants on the criteria of an existing self-report or diagnosed mental illness or cognitive or developmental disability will be excluded.

Study design Eligible trials will include randomised controlled trials (RCTs), including cluster-randomised controlled trials (CRCTs), that compare a school-based resilience-focussed intervention program with:

1) an alternative intervention; or,
2) a control or comparison group. Control or comparison groups may include comparator groups that receive no intervention, usual practice, or attention only [40].

Setting For a study to be eligible for inclusion, the intervention, or at least a substantive part of the intervention content, must be school-based. Studies will be considered as school-based if the intervention is demonstrated to be an extension of school participation. Intervention content must be received by the children and/or adolescents. Included schools will be schools attended by children and/or adolescents aged between 5 and 18 years. International

terminology to describe school level varies; thus, included school settings may include, but are not limited to, schools described as infant, middle, elementary, primary, secondary, and high schools. Studies conducted at pre-schools or tertiary institutions such as college or university will be excluded.

Primary outcomes Studies will be included if they report a measure of prevalence or extent of occurrence of child or adolescent mental health problems. Mental health data collected via various methods will be included, for example observational data; phone, online, or face-to-face self-report data; and secondary report e.g. by teachers or parents and guardians. Measures of mental health outcomes will not be required to be validated. Studies with outcomes of symptomology only will be excluded, for example sleeplessness and fatigue associated with depression. Studies where follow-up data collection is only conducted once participants reach 18 years of age or older will additionally be excluded.

Intervention Interventions of included trials must:

- be universal (e.g. offered to whole-school, whole-year, or whole class) [32]. As such, studies targeted to the whole student population or entire groups of students not identified as having or being at-risk of mental health problems will be included [32]; and,
- explicitly state that the intervention is resilience-focussed. Under this criteria, resilience must be referred to in the title or key sentences defining the nature of the intervention for a study to be included. The rationale for this criteria is the acknowledgement that throughout the resilience research field, a high level of inconsistency in the operationalisation of resilience is evident, with no one definition of the concept or combination of protective factors accepted as the most accurate or robust [25, 41, 42]. Therefore, in order for the present review to be inclusive, varying approaches to resilience must be equally considered; or
- interventions must address at least three internal protective factors. Whilst variation exists in the operationalisation of resilience, it is generally accepted that the nature of resilience is multifactorial [25], suggesting the importance of strengthening multiple factors. This criteria is based on existing literature and the minimum number of internal protective factors reported as targeted in established resilience-focused interventions targeting mental health outcomes in children and adolescents [23, 31, 43–45].

Resilience-focussed interventions take many forms and therefore may vary by mode of delivery (e.g. school staff,

Dray *et al. Systematic Reviews* (2015) 4:186

Page 4 of 8

56

research staff, external providers, or student facilitators), range in activity type (e.g. classroom-based exercises to build protective factors, presentations, special assemblies), or format of intervention (e.g. face-to-face curriculum-based or internet-based). There will be no exclusion based on duration of intervention, length of follow-up, mode of intervention delivery, or format of intervention.

In the event that a study includes both resilience-focussed and additional non-resilience-focussed content, details of intervention elements will be extracted and a narrative description will be used to synthesise this information.

Exclusion criteria The following exclusion criteria will apply:

▪ Studies that report on interventions that are selective (studies of students considered at-risk of developing mental health problems), indicated (aimed at students with significant symptoms but that have not yet been diagnosed with a mental health problem), or treatment interventions (aimed at students with a current diagnosed mental disorder) [32] will be excluded.
▪ Interventions must be an extension of school participation. Therefore, interventions that only use schools for recruitment purposes will be excluded.

Publication characteristics
There will be no exclusion on the basis of study country; however, only studies published in English will be included. Studies published in the last 20 years will be eligible for inclusion.

Information sources
Electronic databases
The following range of electronic databases will be searched: MEDLINE, PsycINFO, Educational Resources Information Center (ERIC), Excerpta Medica database (EMBASE), Cumulative Index to Nursing and Allied Health Literature (CINAHL), and the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library).

Other sources
Hand searches for eligible studies will be conducted of reference lists of included studies: the three most relevant past reviews, the first 200 articles from Google Scholar, and volumes from the past five years of three relevant journals in the field (Journal of Child Psychology and Psychiatry, Journal of the American Academy of Child and Adolescent Psychiatry, Advances in School Mental Health Promotion).

Search strategy
The search strategy will include terms for population, intervention, outcome, and study design (see Appendix 1 for the search strategy for MEDLINE). A published search filter will be used for the section of the search strategy pertaining to study design (randomised controlled trials; Cochrane 2008 Highly Sensitive Search Strategy) [46]. The search strategy will be modified where necessary to search individual electronic databases.

Study records
Data management
The program EndNote will be used to remove duplicates, to assist in obtaining full text papers, and to store and manage records throughout the review. RevMan software will be used for pooling of trial data and meta-analyses.

Study selection process
Duplicate articles will be removed. Titles and abstracts of studies retrieved via the above search strategy will be independently screened by two reviewers to determine eligibility based on the predefined inclusion criteria, and articles that do not meet inclusion criteria will be excluded. Full-text papers of potentially eligible studies will be obtained and independently assessed by two reviewers against study inclusion criteria. Disagreements between reviewers regarding study eligibility will be resolved via consensus or if required by a third reviewer. Where insufficient study details exist, corresponding authors will be contacted for further details in order to determine study eligibility. In cases where further study details remain unavailable, studies will be deemed ineligible. Review authors will not be blinded to author name, author study institution, or journal title.

Data extraction
The authors will extract and include data for every mental health outcome for each included study. Data will be independently extracted from eligible studies by two review authors. A data extraction form will be pre-piloted and used by the two authors during data extraction for assessment of study quality and evidence synthesis. Disagreements regarding data extraction will first be attempted to be resolved through discussion and consensus between the two authors. A third author will review any studies for which discrepancies remain unresolved. Where insufficient study data exists, corresponding authors will be contacted for clarification. One review author will transcribe data from eligible studies into RevMan software using data extraction forms, and the second review author will check this process.

Data items
Information extracted from eligible studies will include the following: author(s) and year of publication, year(s)

Dray *et al. Systematic Reviews* (2015) 4:186

Page 5 of 8

57

of study, country, study design, study population and participant demographics (including age and gender), study setting (to confirm school-based), intervention and comparison group conditions (including number of conditions, the protective factors targeted, and intervention duration and intensity), follow-up data collection points, trial outcomes and results (including consent, participation and attrition rate(s), sample size, results of relevant mental health outcomes, and intraclass correlation if relevant), measurement tool, details of intervention fidelity, and study funding and/or other sources of conflicts of interest and information required for assessment of potential study bias (see below).

Assessment of risk of bias

As outlined in the Cochrane Handbook for Systematic Reviews of Interventions, risk of bias in included studies will be assessed independently by two review authors against the following qualities: selection bias (random sequence generation and allocation concealment), performance bias (blinding of participants and personnel), detection bias (blinding of outcome assessment), attrition bias (incomplete outcome data), reporting bias (selective reporting), and any other potential sources of bias [47].

Resolution of disagreements on risk of bias will first be attempted through discussion and consensus of the two review authors. In the event that consensus cannot be reached, a third reviewer will be consulted.

Data analysis

Data from included studies will be extracted and intervention effects assessed on measures of comparable mental health outcomes. For studies reporting follow-up assessment, data will be extracted and reported according to short-term (<12 months) and long-term (>12 months) effects. For studies reporting multiple follow-up assessments, data from the final trial endpoint within the eligible participant age range (i.e. 5 to 18 years) will be used. Where studies are sufficiently homogenous, meta-analysis will be performed using a random effects model. Different outcomes will not be combined in pooled synthesis. Only measures of the same outcome will be pooled using a random effects model. Separate meta-analysis will be conducted for each outcome. Meta-analysis will, however, be contingent on the availability of appropriate data and following assessment and consideration of heterogeneity (described below under the 'Data synthesis and analysis' section). Binary outcomes will be pooled and effect estimates reported as relative risks. Continuous outcomes will be pooled and reported as a mean difference where consistent outcome measures are employed across studies or a standardised mean difference where different measures are used to report a comparable outcome. Variability in point estimates will be described using 95 % confidence intervals. If

possible, additional sub-group analysis by age and gender will be performed. Attempts will be made to contact study authors to obtain missing data. Trials with missing data will be identified in the risk of bias assessment tables. The outcomes of trials unable to be included in meta-analysis due to missing data will be reported narratively.

Data synthesis and analysis

Heterogeneity will be assessed via visual inspection of forest plots and consideration of the I^2 statistic (I^2 of 75 to 100 % indicating considerable heterogeneity) [47]. Where heterogeneity exists, the sources of heterogeneity will be investigated through sub-group analysis on participant, design, outcome, and study quality characteristics. Narrative description will be used to synthesise trial outcome data where data cannot be combined or significant heterogeneity exists.

Issues of clustering

Due to the nature of the review (focus on school-based studies), it is expected that cluster-randomised control trials will be identified and potentially included. In such trials, where no adjustment has been made for the effect of clustering, intraclass correlations will be requested from corresponding authors, or where not available, estimates will be obtained from similar studies (e.g. school-based studies reporting similar school, student, gender and scholastic year characteristics) and combined using a generic inverse variance approach.

Assessment of reporting bias

Funnel plots will be used to assess possible reporting bias in included studies.

Confidence in cumulative evidence

The strength of the body of evidence and therefore the confidence in cumulative evidence will be assessed using the GRADE approach developed by the Grades of Recommendation, Assessment, Development and Evaluation Working Group [48–50]. This approach includes assessment of each individual outcome per trial across five key areas: risk of bias within included studies (methodological quality), directness of evidence (relevance to the review question), heterogeneity (inconsistency), precision of effect estimates, and risk of publication bias [50].

Ethics and dissemination

No ethics approval was necessary for the present systematic review and therefore was not obtained. Dissemination of review findings is planned to occur through publication of the final review manuscript and conference presentations.

Dray *et al. Systematic Reviews* (2015) 4:186

Page 6 of 8

58

Discussion

This systematic review will provide an evidence base for the effectiveness of school-based resilience-focussed interventions on mental health outcomes in children and adolescents. Such an evidence base provides an opportunity to better inform the development of interventions which may enable advantageous outcomes such as the maintenance or return to positive mental health, or prevention or reduction of mental health problems, in children and adolescents. Thus, this review will be of value to researchers, policy makers, and members of the community with an interest in supporting the mental health, well-being, resilience, and therefore overall positive life trajectories of children and adolescents.

Appendix 1

Database(s): Ovid MEDLINE® 1946 to present with daily update

Search date: December 8–10, 2015

Table 1 Search strategy

#	Searches	Results
1	mental health.mp. or Mental Health/	119202
2	Stress, Psychological/ or psychological distress.mp.	101936
3	mental hygiene.mp.	2825
4	psychological status.mp.	1787
5	(psychological adj (wellbeing or well being or health)).mp.	8043
6	psychopathology.mp. or Psychopathology/	25328
7	(psychological* adj (stress* or adapt*)).mp.	6224
8	mental* ill*.mp. or Mentally Ill Persons/	31696
9	(emotional* adj (distress* or health or wellbeing or well being)).mp.	7875
10	exp Mental Disorders/ or mental disorder*.mp.	1035426
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10	1186238
12	School Health Services/ or school*.mp.	229734
13	school based.mp.	7915
14	classroom.mp.	8682
15	(school* adj3 (intervention* or program* or course* or polic* or practice* or curricul* or environment*)).mp.	17470
16	schoolchild*.mp.	10807
17	12 or 13 or 14 or 15 or 16	234430
18	resilien*.mp. or Psychological Resilience/	12613
19	(factor* adj (protect* or promoti* or external or internal or environment*)).mp.	2995
20	(strength* adj (based or focused)).mp.	507
21	(development adj3 (adolescen* or youth or child* or positive)).mp.	64536
22	(coping or adaptability or life skill* or lifeskill* or social skill*).mp.	44408
23	(competence adj3 (emotional or behavio?ral or social or cognitive)).mp.	2748

Table 1 Search strategy *(Continued)*

24	psychological adaptation.mp. or Adaptation, Psychological/	80080
25	(positive psychology or psychosocial or psycho social or positive education).mp.	66410
26	18 or 19 or 20 or 21 or 22 or 23 or 24 or 25	235055
27	randomized controlled trial.pt.	418071
28	controlled clinical trial.pt.	92294
29	random*.tw.	730987
30	placebo.tw.	164067
31	clinical trials as topic.sh.	180293
32	trial.tw.	382569
33	27 or 28 or 29 or 30 or 31 or 32	1223015
34	11 and 17 and 26 and 33	845
35	limit 34 to yr = "1995 -Current"	764
36	(animals not (humans and animals)).sh.	4062702
37	35 not 36	764

Author details
[1]Hunter New England Population Health, Hunter New England Local Health District, Locked Bag 10, Wallsend, NSW 2287, Australia. [2]The University of Newcastle, Callaghan, NSW 2308, Australia. [3]Hunter Medical Research Institute, Locked Bag 1, Hunter Region Mc, NSW 2310, Australia.

References
1. Buckley S, Cannon M, Chambers D, Coughlan H, Duffy M, Gavin B, et al. The International Declaration on Youth Mental Health. Killarney, Ireland: International Association of Youth Mental Health; 2011.
2. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, et al. Mental health of young people in Australia: child and adolescent component of the National Survey of Mental Health and Well-being.

Dray *et al. Systematic Reviews* (2015) 4:186

Page 7 of 8

59

Canberra: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care; 2000.

3. Australian Institute of Health and Welfare. Young Australians: their health and wellbeing. Canberra: Australian Institute of Health and Welfare; 2011.

4. Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, et al. Child and adolescent mental health worldwide: evidence for action. Lancet. 2011;378(9801):1515–25. doi:10.1016/S0140-6736(11)60827-1.

5. Reiss F. Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. Social Science and Medicine. 2013;90(1):24–31. doi:10.1016/j.socscimed.2013.04.026.

6. Rajmil L, López-Aguilà S, Mompart Penina A, Medina Bustos A, Rodríguez Sanz M, Brugulat Guiteras P. Socio-economic inequalities in children's mental health in Catalonia. Anales de Pediatria (Barcelona, Spain: 2003). 2010;73(5):233–40.

7. Green H, McGinnity A, Meltzer H, Ford T, Goodman R. Mental health of children and young people in Great Britain, 2004. London: Office of National Statistics, The Stationary Office; 2005.

8. McLaughlin J, Hilt LM, Nolen-Hoeksema S. Racial/ethnic differences in internalizing and externalizing symptoms in adolescents. J Abnorm Child Psychol. 2007;35(5):801–16.

9. Belfer ML. Child and adolescent mental disorders: the magnitude of the problem across the globe. Journal of Child Psychology and Psychiatry. 2008; 49(3):226–36.

10. Edwards B, Baxter J. The tyrannies of distance and disadvantage: factors related to children's development in regional and disadvantaged area's of Australia. Melbourne: Australian Insititute of Family Studies; 2013. Report No.: 25.

11. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. The Lancet. 2007;369(9569):1302–13.

12. Fergusson DM, Woodward LJ. Mental health, educational, and social role outcomes of adolescents with depression. Arch Gen Psychiatry. 2002;59(3): 225–31. doi:10.1001/archpsyc.59.3.225.

13. Merikangas KR, Nakamura EF, Kessler RC. Epidemiology of mental disorders in children and adolescents. Dialogues Clin Neurosci. 2009;11(1):7–20.

14. Braddick F, Carral V, Jenkins R, Jané-Llopis E. Child and adolescent mental health in Europe: infrastructures, policy and programmes. Luxembourg: European Communities; 2009.

15. Merikangas KR, He J, Bustein M, Swanson SA, Avenevoli S, Cui L, et al. Lifetime prevalence of mental disorders in US adolescents: results from the National Comorbidity Study-Adolescent Supplement (NCS-A). J Am Acad Child Adolesc Psychiatry. 2010;49(10):980–9. doi:10.1016/j.jaac.2010.05.017.

16. Waddell C, Shepherd C. Prevalence of mental disorders in children and youth. Vancouver: The University of British Columbia; 2002.

17. Polanczyk GV, Salum GA, Sugaya LS, Caye A, Rohde LA. Annual research review: a meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. Journal of Child Psychology and Psychiatry. 2015; 56(3):345–65. doi:10.1111/jcpp.12381.

18. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, et al. The mental health of young people in Australia: key findings from the child and adolescent component of the National Survey of Mental Health and Well-being. Aust N Z J Psychiatry. 2001;35(6):806–14. doi:10.1046/j.1440-1614.2001.00964.x.

19. National Research Council and Institute of Medicine. Preventing mental, emotional, and behavioral disorders among young people: progress and possibilities. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington: The National Academies Press; 2009.

20. Costello EJ, Mustillo S, Keller G, Angold A. Prevalence of psychiatric disorders in childhood and adolescence. In: Levin BL, Petrila J, Hennessy KD, editors. Mental Health Services: a Public Health Perspective. 2nd ed. UK: Oxford University Press; 2004. p. 111–28.

21. Hjemdal O, Aune T, Reinfjell T, Stiles TC. Resilience as a predictor of depressive symptoms: a correlational study with young adolescents. Clin Child Psychol Psychiatry. 2007;12(1):91–104.

22. Hjemdal O, Vogel PA, Solem S, Hagen K, Stiles TC. The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents. Clinical Psychology and Psychotherapy. 2011; 18(4):214–321. doi:10.1002/cpp.719.

23. Sun J, Stewart DE. Promoting student resilience and wellbeing: Asia-Pacific Resilient Children and Communities Project. In: Lovat T, Toomey R, Clement N, editors. International Research Handbook on Values Education

and Student Wellbeing. New York: Springer Science + Business Media; 2010. p. 409–26.

24. Shaikh A, Kauppi C. Deconstructing resilience: myriad conceptualizations and interpretations. International Journal of Arts and Sciences. 2010; 3(15):155–76.

25. Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. Child Dev. 2000;71(3):543–62.

26. Davydov DM, Stewart R, Ritchie K, Chaudieu I. Resilience and mental health. Clin Psychol Rev. 2010;30:479–95.

27. Fergus S, Zimmerman MA. Adolescent resilience: a framework for understanding healthy development in the face of risk. Annu Rev Public Health. 2005;26:399–419.

28. Rutter M. Resilience in the face of adversity: protective factors and resilience to psychiatric disorder. British Journal of Psychiatry. 1985;147(6):598–611. doi:10.1192/bjp.147.6.598.

29. Luthar SS, Cicchetti D. The construct of resilience: implications for interventions and social policies. Dev Psychopathol. 2000;12(4):857–85.

30. Lee PC, Stewart DE. Does a socio-ecological school model promote resilience in primary schools? Journal of School Health. 2013;83(11):795–804.

31. Cowen EL, Hightower AD, Pedro-Carroll JL, Work WC, Wyman PA, Haffey WG. The Rochester Child Resilience Project. School-based prevention for children at risk: The Primary Mental Health Project. Washington: American Psychological Association; 1996. p. 255–74.

32. Weisz JR, Sandler IN, Durlak JA, Anton BS. Promoting and protecting youth mental health through evidence-based prevention and treatment. American Psychologist. 2005;60(6):628–48. doi:10.1037/0003-066X.60.6.628.

33. Domitrovich CE, Bradshaw CP, Greenberg MT, Embry D, Poduska JM, lalongo NS. Integrated models of school-based prevention: logic and theory. Psychology in Schools. 2010;47(1):71–88.

34. Masten AS, Herbers JE, Cutuli J, Lafavor TL. Promoting competence and resilience in the school context. Professional School Counseling. 2008;12(2):76–84.

35. Shochet IM, Dadds MR, Holland D, Whitefield K, Harnett PH, Osgarby SM. The efficacy of a universal school-based program to prevent adolescent depression. J Clin Child Psychol. 2001;30(3):303–15.

36. Macedo T, Wilheim L, Gonçalves R, Evandro Silva Freire C, Vilete L, Figueira I, et al. Building resilience for future adversity: a systematic review of interventions in non-clinical samples of adults. BMC Psychiatry. 2014;14:227. doi:10.1186/s12888-014-0227-6.

37. Leppin AL, Bora PR, Tilburt JC, Gionfriddo MR, Zeballos-Palacios C, Dulohery MM, et al. The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. PLoS One. 2014;9(10):e111420. doi:10.1371/journal.pone.0111420.

38. Brunwasser SM, Gillham JE, Kim ES. A meta-analytic review of the Penn Resiliency Program's effect on depressive symptoms. American Psychological Association. 2009;77(6):1045–54. doi:10.1037/a0017671.

39. Brownlee K, Rawana J, Franks J, Harper J, Bajwa J, O'Brien E, et al. A systematic review of strengths and resilience outcome literature relevant to children and adolescents. Child and Adolescent Social Work Journal. 2013;30(5):435–59.

40. Freedland KE, Mohr DC, Davidson KW, Schwartz JE. Usual and unusual care: existing practice control groups in randomized controlled trials of behavioral interventions. 2011;73(4):323–35. doi:10.1097/PSY. 0b013e318218e1fb.

41. Harvey J, Delfabbro PH. Psychological resilience in disadvantaged youth: a critical overview. Australian Psychologist. 2004;39(1):3–13. doi:10.1080/00050060410001660281.

42. Doll B, Lyon MA. Risk and resilience: implications for the delivery of educational and mental health services in schools. School Psychology Review. 1998;27(3):348–63.

43. Gillham JE, Brunwasser SM, Freres DR. Preventing depression in early adolescence: The Penn Resiliency Program. In: Abela JRZ, Hankin BL, editors. Handbook of Depression in Children and Adolescents. New York: United States of America: The Guilford Press; 2008. p. 309–32.

44. Shochet IM, Ham D. Universal school-based approaches to preventing adolescent depression: past findings and future directions of the Resourceful Adolescent Program. International Journal of Mental Health Promotion. 2012;6(3):17–25.

45. Spence SH, Burns J, Boucher S, Glover S, Graetz B, Kay D, et al. The Beyondblue Schools Research Initiative: conceptual framework and intervention. Australasian Psychiatry. 2005;13(2):159–64.

Dray *et al. Systematic Reviews* (2015) 4:186

Page 8 of 8

60

46. The Cochrane Collaboration. Box 6.4.b: Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity- and precision-maximizing version (2008 revision); PubMed format. In: Higgins JPT, Green S, editors. Cochrane Handbook for Systematic Reviews of Interventions 5. 1. 0 [updated March 2011]. Chichester: Wiley; 2011.

47. The Cochrane Collaboration. Cochrane Handbook for Systematic Reviews of Interventions. Version 5.1.0 [updated March 2011]. The Cochrane Collaboration. Available form www.cochrane-handbook.org; 2011. Access date: April-December 2015

48. GRADE Working Group. Grading quality of evidence and strength of recommendations. BMJ. 2004;328(7454):1490–4. doi:10.1136/bmj.328.7454.1490.

49. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008;336:924–6. doi:10.1136/bmj.39489.470347.AD.

50. Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schünemann HJ, et al. What is "quality of evidence" and why is it important to clinicians? BMJ. 2008;336:995–8. doi:10.1136/bmj.39490.551019.BE.

SYSTEMATIC REVIEW OF UNIVERSAL RESILIENCE INTERVENTIONS TARGETING CHILD AND ADOLESCENT MENTAL HEALTH IN THE SCHOOL SETTING

CHAPTER 4

Chapter 4 is a published paper with published supplementary material:

Dray, J., Bowman, J., Campbell, E., Freund, M., Wolfenden, L., Hodder, RK., McElwaine, K., Tremain, D., Bartlem, K., Bailey, J., Small, T., Palazzi, K., Oldmeadow, C., Wiggers, J. Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting. *Journal of the American Academy of Child and Adolescent Psychiatry, 56*(10): 813-824. doi:10.1016/j.jaac.2017.07.780

In addition, content not included in the published paper or published supplementary material is included as 'Chapter 4 Additional Appendices'.

Systematic Review of Universal Resilience-Focused Interventions Targeting Child and Adolescent Mental Health in the School Setting

Julia Dray, BPsych(Hons1), Jenny Bowman, PhD, Elizabeth Campbell, PhD, Megan Freund, PhD,
Luke Wolfenden, PhD, Rebecca K. Hodder, MAppPsych, Kathleen McElwaine, PhD,
Danika Tremain, BPsych(Hons), Kate Bartlem, PhD, Jacqueline Bailey, BPsych(Hons),
Tameka Small, BNutrDiet, Kerrin Palazzi, MPH, Christopher Oldmeadow, PhD, John Wiggers, PhD

Objective: To examine the effect of universal, school-based, resilience-focused interventions on mental health problems in children and adolescents.

Method: Eligible studies were randomized controlled trials (RCTs) of universal, school-based interventions that included strategies to strengthen a minimum of 3 internal resilience protective factors, and included an outcome measure of mental health problems in children and adolescents aged 5 to 18 years. Six databases were searched from 1995 to 2015. Results were pooled in meta-analyses by mental health outcome (anxiety symptoms, depressive symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, and general psychological distress), for all trials (5−18 years). Subgroup analyses were conducted by age (child: 5−10 years; adolescent: 11−18 years), length of follow-up (short: post-≤12 months; long: >12 months), and gender (narrative).

Results: A total of 57 included trials were identified from 5,984 records, with 49 contributing to meta-analyses. For all trials, resilience-focused interventions were effective relative to a control in reducing 4 of 7 outcomes: depressive symptoms, internalizing problems, externalizing problems, and general psychological distress. For child trials (meta-analyses for 6 outcomes), interventions were effective for anxiety symptoms and general psychological distress. For adolescent trials (meta-analyses for 5 outcomes), interventions were effective for internalizing problems. For short-term follow-up, interventions were

effective for 2 of 7 outcomes: depressive symptoms and anxiety symptoms. For long-term follow-up (meta-analyses for 5 outcomes), interventions were effective for internalizing problems.

Conclusion: The findings may suggest most promise for using universal resilience-focused interventions at least for short-term reductions in depressive and anxiety symptoms for children and adolescents, particularly if a cognitive-behavioral therapy−based approach is used. The limited number of trials providing data amenable for meta-analysis for some outcomes and subgroups, the variability of interventions, study quality, and bias mean that it is not possible to draw more specific conclusions. Identifying what intervention qualities (such as number and type of protective factor) achieve the greatest positive effect per mental health problem outcome remains an important area for future research.

W orldwide, 10% to 20% of children and adolescents experience mental health problems,[1] with age of onset for many disorders reported to be from 12 to 24 years.[2] Mental health problems in children and adolescents have been shown to contribute to lower achievement in education, and increased rates of engagement in health risk behaviors, self-harm, and suicide,[2,3] with

the impacts of such problems often persisting into adulthood.[4,5] Thus, the prevention of mental health problems in children and adolescents is integral to promoting positive life outcomes for young people.

In recent decades, there has been a shift in the focus of mental health research from risk and psychopathology to the promotion of positive outcomes such as resilience.[6] Although much variation exists in the operationalization of resilience,[7] researchers commonly refer to the construct as dynamic[8] and multifactorial,[7] involving the maintenance of, or return to, positive mental health following adversity by using a collection of multiple internal (personal

Supplemental material cited in this article is available online.

characteristics or strengths) and external (qualities of wider family, social, and community environments) resilience protective factors (assets and resources) that enable an individual to thrive and to overcome disadvantage or adversity.[9-14] Findings of studies that have quantitatively examined the association between specific resilience protective factors and mental health outcomes are consistent with suggestions that the strengthening of resilience protective factors may reduce mental health problems in children and adolescents.[15] For example, studies have reported high levels of protective factors (strong attachment to family,[16] high levels of pro-social behavior in family, school, and community,[16] high social skills/ competence,[16-18] strong moral beliefs,[16] high levels of religiosity,[16] positive personal disposition,[17,18] positive social support,[17,18] and strong family cohesion[16-18]) to be associated with lower levels of anxiety symptoms, depressive symptoms, stress, and obsessive-compulsive disorder in children and adolescents.[16-18]

Resilience-focused interventions target the strengthening of multiple protective factors, often termed "building resilience," and are one suggested approach for reducing mental health problems in children and adolescents.[7,19] Resilience-focused interventions take many forms and vary by intervention mode (e.g., curriculum-based lessons, or broader capacity-building strategies to enable schools to identify school-specific needs and to use their own and external resources to sustain strategies to target protective factors), length, and frequency of curriculum-based lessons, overall duration of intervention, facilitator, and delivery (e.g., face-to-face, online). Such interventions are commonly school based and adopt universal frameworks, targeting whole populations or groups not identified as having, or being at risk for, mental health problems.[20] Schools provide access to children and adolescents for prolonged periods at critical times in development and have existing resources, infrastructure, and values that are conducive to supporting the development of positive health, mental health, and resilience in young people.[21-23]

Many universal, school-based, resilience-focused interventions have been implemented internationally. Two meta-analyses[24,25] have reported the effectiveness of randomized controlled trials of the universal application of one particular resilience-focused school-based intervention, the PENN Resiliency Program (PRP). The PRP is a 12-week program based on cognitive-behavioral principles implemented in the United States, and targeting internal protective factors of children and adolescents (8−18 years) through structured curriculum activities within group sessions.[26] The first meta-analysis examined the effect on the single outcome of depressive symptoms at immediate postintervention, 6- to 8-month follow-up, and 12-month follow-up,[24] finding a reduction in depressive symptoms at 12-month follow-up only.[24] The second, a more recent meta-analysis, examined 2 outcomes, namely, anxiety symptoms and depressive symptoms, and found no evidence of effect on either at immediate postintervention.[25] No later follow-up data points were examined. No systematic review has quantitatively synthesized the effect of universal, school-based,

resilience-focused interventions more generally, nor considered a broader range of mental health outcomes in children and adolescents.

In addition, gender differences have been consistently identified in both the prevalence of mental health problems[27-33] and in the type of resilience protective factors that children and adolescents use.[16,18] Knowledge of such differences lends itself well to the suggestion that the effect of resilience-focused interventions targeting mental health problems in children and adolescents may also vary by gender, and hence be valuable to consider in systematic reviews. Likewise, examination of effects separately for children and adolescents can help inform whether resilience-focused interventions may have greater benefit if implemented early in childhood.[34] Finally, there is value in understanding the length of any positive intervention effects. Such information can assist in understanding the cost-versus-benefit ratios of these programs.

To address identified evidence gaps, a review was undertaken to assess the effectiveness of universal, school-based, resilience-focused interventions on 7 prevalent and frequently reported mental health problems in children and adolescents (aged 5−18 years). The outcomes were anxiety symptoms, depressive symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, and general psychological distress. A secondary aim was to examine the differential effects of such interventions by age (child; adolescent), gender (male; female), and length of follow-up (short-term; long-term).

METHOD
The review was prospectively registered with PROSPERO (reference number CRD42015025908), and the methods are described in detail in the related protocol.[35] The Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines were used to guide development of the review protocol[36] and reporting of the review findings.[37]

Study Inclusion Criteria
Study Type. Included studies were randomized controlled trials (RCTs), including cluster randomized controlled trials (CRCTs) that compared a universal, school-based, resilience-focused intervention to a control or an alternative intervention.

Outcome Measures. Studies eligible for inclusion reported the prevalence or extent of occurrence of at least 1 of 7 mental health problems for participants aged 5 to 18 years: depressive symptoms, anxiety symptoms, hyperactivity, conduct problems, internalizing problems, externalizing problems, or general psychological distress.

Setting and Intervention. Included trials assessed interventions that addressed at least 3 internal resilience protective factors. These criteria were established a priori[35] and were based on literature suggesting resilience as multifactorial,[19] as well as the minimum number of internal resilience protective factors targeted in previously identified studies of resilience-focused interventions with mental health outcomes in children and adolescents.[9,11,26,38] Interventions conducted in war zones were excluded because of their unique context and the differences in conceptual approaches to strengthening resilience in such environments.[39]

Search Methods

Six databases were searched from January 1995 to December 2015: Medline, PsycINFO, ERIC, EMBASE, CINAHL, and the Cochrane Central Register of Controlled Trials (CENTRAL, The Cochrane Library). Various other sources were searched: the first 200 articles from Google Scholar; relevant past reviews[24,40-50]; volumes from the past 5 years of 3 key journals; and the reference lists of included studies. Authors of included studies were contacted to check for further related publications and other potential studies. A total of 31 publications were received from authors and screened for eligibility, with 2 publications forming included trials in the review.

Study Selection Process

Records were retrieved using the described search strategy, duplicates removed, and the remaining records uploaded to the online program Covidence.[51] Titles, abstracts, and relevant full texts were screened by 2 authors for eligibility against predetermined criteria.[35] Authors were contacted when eligibility was unclear.

Data Extraction

Data were extracted from the longest follow-up data point, and the publication reporting these outcomes was classified as the primary paper, with supplementary details extracted where needed from related publications. Data were extracted for each relevant mental health outcome using a Microsoft Excel−based data extraction form (Microsoft Corp., Redmond, WA). An independent research assistant checked each stage of data extraction (approach used in recent Cochrane reviews[42,52,53]), with disagreements resolved via consensus.

Where insufficient data existed, attempts were made to contact authors. Where data reported at the longest follow-up remained missing, data from the penultimate point of follow-up was extracted. A number of studies reported data from multiple measures of one outcome (e.g., 2 measures of depressive symptoms) or data from multiple informants for one outcome (e.g., child and teacher and/or parent report). In such studies, data were selected according to the following hierarchy: (1) data were extracted from the outcome identified as primary or included in the sample size calculation; or (2) where no outcome was explicitly identified as primary, the measure consistently described first in the measures and/or results tables was used; or (3) where no outcome was identified as primary and the order of outcomes varied throughout a publication, data were extracted from the outcome or informant for which the longest follow-up was provided.

Data Analysis and Synthesis

Intervention effects were assessed in separate meta-analyses for each of the 7 mental health problem outcomes (primary outcomes), with data from comparable mental health measures pooled. Trials were categorized into 2 groups: resilience-focused interventions relative to a control (primary comparison), or resilience-focused interventions relative to alternative resilience-focused interventions (secondary comparison), and meta-analyses were conducted separately for each group.

Meta-analyses were prespecified[35] and conducted to compare effect sizes across all trials (5−18 years) and also separately by age (child trials: 5−10 years; adolescent trials: 11−18 years) and by length of follow-up (short: post-≤12 months; long: >12 months), for each mental health problem outcome. In the absence of a

commonly adopted age categorization across past relevant systematic reviews,[24,40-50,54-56] the division of trials into child and adolescent groups was based on the World Health Organization (WHO) definition of adolescence as the second decade of life,[21] and allocation was based on overall mean of sample at baseline. Subgroup analysis by gender was planned[35]; however, too few studies provided data for differential intervention effect by gender that were amenable to meta-analysis. Additional post hoc exploratory subgroup analyses were conducted to explore differential intervention effect by therapeutic basis (cognitive-behavioral therapy [CBT]−based versus non−CBT-based). Trials were categorized as CBT-based if authors of included studies explicitly identified therapeutic basis as CBT or cognitive restructuring.[57] All other approaches were grouped as non-CBT.

Meta-analyses were performed using a random-effects model in Review Manager version 5.3,[58] and used a significance level of .05. Because of variation in measurement tools across trials, effect measures were calculated as standardized mean difference. For CRCTs, effective sample sizes were calculated for each outcome by dividing the total sample size by the design effect. Intraclass correlation coefficients ranged from 0.01 to 0.25. For studies with multiple control or intervention arms, provided that each treatment condition met the review inclusion criteria, composite treatment effects were calculated (weighted mean, by sample size), along with pooled standard deviation.[59] Heterogeneity was assessed via visual inspection of the forest plots and consideration of the I^2 statistic (I^2 of 75%−100% indicating considerable heterogeneity).[60]

Assessment of Risk of Bias. Risk of bias for each study was assessed independently by 2 reviewers using the online program Covidence[51] and following the Cochrane Handbook for Systematic Reviews of Interventions guidelines.[60] Disagreements were resolved through consensus.

Assessment of Reporting Bias and Confidence in Cumulative Evidence. For the main outcomes of the review, reporting bias was assessed via visual inspection of funnel plots, and the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) approach[61-63] was used to assess confidence in cumulative evidence.

RESULTS

The review process resulted in the inclusion of 57 trials described across 99 publications (Figure 1). Four ongoing trials from 5 publications[64-68] were identified.

Included Studies

The 57 included studies comprised 12 RCTs and 45 CRCTs, with 41,521 participants across study arms at longest follow-up (for characteristics of included studies, see Table S1, available online). Included studies were conducted across 16 countries, with the largest number conducted in Australia (n = 18), followed by the United States (n = 14). All trials were school-based and included universal components only.

In all, 41 trials reported a measure of depressive symptoms (9 child, 32 adolescent); 27 measured anxiety symptoms (11 child, 16 adolescent); 8 measured hyperactivity (6 child, 2 adolescent); 7 measured conduct problems (4 child, 3 adolescent); 7 measured internalizing problems (2 child, 5 adolescent); 8 measured externalizing problems (4 child, 4 adolescent); and 8 measured general psychological distress

FIGURE 1 Study flow diagram.

Records identified through database searching
(n = 5,292)

Additional records identified through other sources
(n = 2,677)
(Hand searching = 2,235)
(Google Scholar/extraction from related systematic reviews = 442)

Records after duplicates removed
(n = 5,984)

Additional records identified through review of reference lists/contacting authors of included articles
(n = 225)

Duplicates (n = 13)

Records screened (title and abstract)
(n = 5,984)

Records excluded
(n = 5,627)

Full-text papers assessed for eligibility (n = 53)
+
Intervention manuals or websites identified
(n = 27)

Full-text articles assessed for eligibility
(n = 357)

Full-text articles excluded
n = 283

Non-English (n = 9)
Full text unavailable (n = 7)
Study design (n = 98)
Participants (n = 23)
Intervention (n = 73)
Outcome (n = 57)
Duplicate (n = 16)

Studies included
(n = 5)
Related publications included
(n = 25)

Studies included in qualitative synthesis
(n = 57 studies, from
n = 99 publications)

Full-text articles excluded
n = 23

Study design (n = 16)
Participants (n = 1)
Intervention (n = 4)
Outcome (n = 1)
Duplicate (n = 1)

Studies included in quantitative synthesis
(meta-analysis)
(n = 49)

Ongoing studies (n = 4, from
n = 5 publications)

Identification

Screening

Eligibility

Included

(4 child, 4 adolescent). Of 57 included studies, 19 were classified as child (participants aged 5–10 years at baseline), and 38 as adolescent (participants aged 11–18 years at baseline). Overall, 39 trials had a follow-up of immediate-post to 12 months postintervention (short-term), with 18 trials reporting a follow-up period of 13 to 72 months (long-term). By outcome, the length of follow-up ranged from immediate postintervention to 54 months for trials reporting

depressive symptoms, 54 months for anxiety symptoms, 24 months for hyperactivity, 72 months for internalizing problems, and 24 months for externalizing problems.

Intervention Characteristics
A total of 28 trials (15 child; 13 adolescent) targeted 3 or more internal resilience protective factors only, and 29

trials (4 child; 25 adolescent) included content that targeted both 3 or more internal resilience protective factors and one or more external resilience protective factors (Table S1, available online). The most commonly targeted internal protective factors were cognitive competence (n = 33), problem solving/decision making (n = 28), cooperation and communication (n = 23), and coping skills (n = 23). The largest number of trials (n = 31) reported being based on CBT. However, many additional approaches were described, and included programs based on the following: positive psychology; social and emotional learning; social skills; life skills; coping skills; interpersonal and self-management skills; psychological well-being therapy; the affective-behavioral-cognitive-dynamic (ABCD) model; mindfulness; and mental health promotion. All interventions included a curriculum component that ranged from one lesson per week up to daily lessons ranging from 15 to 120 minutes in length (average: 65 minutes), for 5 to 32 weeks (average: 14 weeks), with 2 trials including additional capacity building or social climate components that were implemented for a period of up to 3 years. The largest number of interventions were implemented by teachers and school staff (n = 24), followed by clinicians and trained external facilitators (n = 20), teachers in combination with clinicians, or trained external facilitators (n = 13). Table S2 (available online) lists group intervention characteristics by each mental health outcome.

Risk of Bias in Included Studies

Assessment of risk of bias is shown in Figures S1 and S2, available online. Of the 57 studies, 44 (77.2%) were rated as high risk for bias overall. Almost all studies were rated as high risk of bias for performance (94.7%) and detection bias (96.5%) because of the nature of the interventions implemented, lack of blinding of key study personnel or participants, and common use of self-report outcome measures. Interrater agreement for risk of bias assessments was strong[69] at 0.71.

Quality Assessment of Included Studies

The quality of evidence (GRADE) for all mental health problem outcomes, except depressive symptoms, was downgraded to "moderate" because of methodological limitations; the quality of evidence for depressive symptoms was downgraded to "low" because of methodological limitations and high probability of publication bias based on visual inspection of the funnel plot.

Effect of Intervention

Of 57 included studies, 49 provided data amenable to meta-analysis (see Table S1, available online, for measurement tools and outcomes used in each included study). Data from 8 studies were not suitable for inclusion in meta-analysis, 6 because of incomplete data,[38,70-74] and 2 because of reported dichotomous outcomes[75,76] (not suitable for inclusion in meta-analysis with continuous outcomes). Of the trials

providing data amenable to meta-analyses, 42 compared an intervention group to a control group (results reported here), and 7 compared a resilience-focused intervention to an alternate resilience-focused intervention. For brevity, the meta-analysis results reported in the text pertain to studies that compared a resilience-focused intervention to a control. For an overview of all meta-analyses results, Table 1 provides a summary of effects.

All Trials (5−18 Years). Meta-analysis (5−18 years) was possible for all outcomes and indicated a significant overall intervention effect for 4 of 7 outcomes: depressive symptoms, internalizing problems, externalizing problems, and general psychological distress.

Effect of Intervention by Age

Child Trials (5−10 Years). For child trials, meta-analysis was possible for 6 of 7 outcomes, with results for internalizing problems reported narratively. Meta-analyses indicated a significant overall intervention effect for anxiety symptoms and general psychological distress. Two trials reported a measure of internalizing problems (with data from one trial incomplete), with one trial finding a significant main effect of intervention[77] and the other no effect.[72]

Adolescent Trials (11−18 Years). For adolescent trials, meta-analysis was possible for 5 of 7 outcomes and indicated a significant overall intervention effect for internalizing problems only. One trial[78] reported the outcome of conduct problems and found no overall effect of intervention.

Effect of Intervention by Gender

Of 57 included trials, 23 studies reported difference in intervention effect by gender for the outcomes of depressive symptoms (n = 18), anxiety symptoms (n = 10), hyperactivity (n = 1), internalizing problems (n = 1), and/or general psychological distress (n = 2). However, only 3 trials provided data suitable for inclusion in gender subgroup analysis. Thus, gender subgroup analysis was not viable, and narrative synthesis was undertaken.

Of the 18 trials that assessed the difference in intervention effect by gender for the outcome of depressive symptoms, 15 found no difference,[79-93] and 3 indicated significant gender effects all of varying trends, with one trial finding a significant reduction in depressive symptoms for intervention group males but not for females,[94] one trial finding a significant reduction for intervention group females but not for males,[78] and the third trial finding significant reductions for intervention females and increased depressive symptoms in males.[71] For the outcome of anxiety symptoms, 8 of 10 trials found no difference in intervention effect by gender,[86,87,89,91,92,94-96] and the remaining 2 trials found a significant reduction in anxiety symptoms for intervention group females at posttest compared to males,[81,97] with one trial assessing this again at 12-month follow-up but indicating that the significant difference was not sustained.[81] One trial assessed difference in intervention effect by gender for

TABLE 1 Summary of Effects

Outcome	Intervention vs. Control				Intervention vs. Alternate Intervention			
	SMD (95% CI)	p	I^2 (%)	n	SMD (95% CI)	p	I^2 (%)	n
Overall intervention effect								
All trials								
Depressive symptoms	**−0.08 (−0.14 to −0.01)**	**.02**	**56**	30	0.07 (−0.09 to 0.23)	.42	29	6
Anxiety symptoms	−0.14 (−0.28 to 0.00)	.06	84	22	N/A			—
Hyperactivity	−0.07 (−0.18 to 0.05)	.24	0	5	N/A			—
Conduct problems	0.01 (−0.11 to 0.12)	.93	0	4	N/A			—
Internalizing problems	**−0.21 (−0.36 to −0.06)**	**.005**	**0**	4	N/A			—
Externalizing problems	**−0.18 (−0.34 to −0.01)**	**.03**	**4**	4	N/A			—
General psychological distress	**−0.11 (−0.21 to −0.01)**	**.03**	**0**	6	N/A			—
Intervention effect by age								
Child trials								
Depressive symptoms	−0.11 (−0.31 to 0.09)	.27	78	8	Narrative			1
Anxiety symptoms	**−0.25 (−0.42 to −0.07)**	**.005**	**72**	11	N/A			—
Hyperactivity	−0.07 (−0.18 to 0.05)	.24	0	5	N/A			—
Conduct problems	−0.02 (−0.15 to 0.10)	.73	0	3	N/A			—
Internalizing problems	Narrative			1	N/A			—
Externalizing problems	−0.16, (−0.45 to 0.13)	.29	41	2	N/A			—
General psychological distress	**−0.13, (−0.24 to −0.02)**	**.02**	**0**	4	N/A			—
Adolescent trials								
Depressive symptoms	−0.05 (−0.11 to 0.01)	.08	36	22	0.12 (−0.02 to 0.25)	.09	0	5
Anxiety symptoms	−0.02 (−0.24 to 0.20)	.87	88	11	0.08 (−0.08 to 0.24)	.35	0	4
Hyperactivity	N/A			—	Narrative			2
Conduct problems	Narrative			1	Narrative			2
Internalizing problems	**−0.19 (−0.35 to −0.02)**	**.03**	**0**	3	Narrative			1
Externalizing problems	−0.19 (−0.45 to 0.08)	.17	29	2	Narrative			1
General psychological distress	−0.04, (−0.26 to 0.18)	.72	0	2	Narrative			2
Intervention effect by length of follow-up								
Short-term follow-up								
Depressive symptoms	**−0.13 (−0.22 to −0.05)**	**.002**	**63**	22	−0.01 (−0.28 to 0.26)	.93	48	4
Anxiety symptoms	**−0.18 (−0.33 to −0.02)**	**.03**	**86**	19	0.02 (−0.19 to 0.23)	.86	0	3
Hyperactivity	−0.05 (−0.19 to 0.06)	.32	0	3	N/A			—
Conduct problems	0.01 (−0.11 to 0.12)	.93	0	4	N/A			—
Internalizing problems	−0.20 (−0.41 to 0.02)	.07	0	2	N/A			—
Externalizing problems	−0.18 (−0.42 to 0.06)	.14	18	2	N/A			—
General psychological distress	−0.12 (−0.24 to 0.01)	.06	0	5	Narrative			1
Long-term follow-up								
Depressive symptoms	0.04 (−0.03 to 0.10)	.25	0	8	0.13 (−0.04 to 0.31)	.14	0	2
Anxiety symptoms	0.07 (−0.13 to 0.27)	.51	0	3	Narrative			1
Hyperactivity	−0.09 (−0.36 to 0.18)	.52	0	2	N/A			—
Conduct problems	N/A			—	N/A			—
Internalizing problems	**−0.22 (−0.42 to −0.02)**	**.03**	**0**	2	Narrative			1
Externalizing problems	−0.17 (−0.49 to 0.15)	.31	47	2	Narrative			1
General psychological distress	Narrative			1	N/A			—

Outcome	CBT-Based				Non−CBT-Based			
	SMD (95% CI)	p	I^2 (%)	n	SMD (95% CI)	p	I^2 (%)	n
Exploratory post hoc subgroup analyses								
Depressive symptoms	**−0.10 (−0.18 to −0.01)**	**.03**	**59**	22	−0.03 (−0.12 to −0.07)	.58	44	8
Anxiety symptoms	**−0.22 (−0.34 to −0.09)**	**.0009**	**70**	16	0.09 (−0.34 to 0.51)	.68	92	6
Hyperactivity	N/A			0	N/A			5
Conduct problems	N/A			1	N/A			3

TABLE 1 Continued

Outcome	CBT-Based				Non−CBT-Based			
	SMD (95% CI)	p	I^2 (%)	n	SMD (95% CI)	p	I^2 (%)	n
Internalizing problems	N/A			3	N/A			1
Externalizing problems	N/A			3	N/A			1
General psychological distress	**−0.13 (−0.26 to −0.00)**	**.05**	**9**	3	−0.08 (−0.36 to 0.10)	.37	0	3

Note: Boldface type reflects significant overall effect of intervention; n is the number of trials that provided data amenable to each meta-analysis. Where table notes "N/A," no trials reported the outcome for the subgroup meta-analyses (see Results section), and where "narrative" is noted, see text for narrative review. CBT = cognitive-behavioral therapy; SMD = standardized mean difference.

the outcome of hyperactivity[90] and one trial for the outcome of total difficulties[98]; both trials indicated no significant effect for such outcomes. For the outcome of internalizing problems, a single trial assessed difference in intervention effect by gender and indicated no significant difference.[99]

Effect of Intervention by Length of Follow-Up

Short-Term Follow-Up. For short-term follow-up, meta-analysis was possible for all outcomes, and indicated a significant overall intervention effect for depressive symptoms and anxiety symptoms.

Long-Term Follow-Up. For long-term follow-up, meta-analysis was possible for 5 of 7 outcomes and indicated a significant overall effect of intervention at long-term follow-up for the outcome of internalizing problems only. One trial reported a long-term follow-up for the outcome of general psychological distress,[92] indicating a significant intervention effect maintained at 18-month follow-up. No trials reported a long-term follow-up for the outcome of conduct problems.

Exploratory Subgroup Analyses

Additional post hoc subgroup analyses comparing CBT-based versus non−CBT-based resilience-focused interventions (Table 1) were possible for 3 of 7 outcomes. Results indicated a significant effect for CBT-based resilience-focused interventions for all 3 outcomes, namely, depressive symptoms, anxiety symptoms, and general psychological distress, with no significant effects for non−CBT-based, resilience-focused interventions.

Heterogeneity

Heterogeneity remained high in 3 meta-analyses: child trials subgroup analysis for the outcome of depressive symptoms ($I^2 = 78\%$), all trials analysis ($I^2 = 84\%$), and adolescent trials subgroup analysis ($I^2 = 88\%$) for the outcome of anxiety symptoms.

DISCUSSION

A comprehensive systematic review was conducted to quantitatively synthesize the body of evidence regarding the effect of universal, school-based interventions targeting resilience protective factors on a range of mental health outcomes prevalent in children and adolescents aged 5 to 18 years. The review found the effectiveness of resilience-focused interventions to vary by mental health problem outcome, age group, and length of follow-up. When pooling all trials, such interventions were effective relative to a control for reducing 4 of 7 mental health problem outcomes, namely, depressive symptoms, internalizing and externalizing problems, and general psychological distress. For the outcome of anxiety symptoms, results of subgroup analysis by age indicating a significant effect of resilience-focused interventions for children but not for adolescents may suggest that the overall effect (all trials 5−18 years) was weakened by the inclusion of adolescent trials. For the outcomes of hyperactivity and conduct problems, it is possible that the ability to detect an intervention effect was limited by the inclusion of a minimal number of trials in such meta-analyses. As no previous systematic review has provided a quantitative synthesis of evidence of the effects of such interventions in children and adolescents, and in particular analyses on the range of mental health problem outcomes and subgroups included in the present review, the capacity to compare the present results to those of previous reviews is constrained.

Meta-analysis results for child trials indicated that resilience-focused interventions were effective relative to a control for reducing 2 of the 6 outcomes amenable to meta-analyses, namely, anxiety symptoms and general psychological distress. For adolescent trials, 5 outcomes were amenable to meta-analyses, with the analysis supporting the effectiveness of resilience-focused interventions in addressing adolescent internalizing problems. The identification of critical times for the implementation of resilience-focused interventions has the potential to improve effectiveness, to boost return on investment, and to positively affect prevention efforts and policy.[100] Results of the present review suggest some benefit of intervening both in childhood (5−10 years) and in adolescence (11−18 years), depending on the mental health outcome being targeted. Variation in effect by age and mental health outcome may potentially be due to differences in the relevance of particular protective factors across life stages[101] and a need to tailor resilience-focused interventions to target protective factors that are developmentally appropriate at age of implementation.[102] This

may suggest that if interventions that adopt a resilience approach are driven by strong logic models[101] that ensure appropriateness of intervention content relative to the mental health problem and age of population being targeted, greater preventive effects may be possible. However, for the outcomes of depressive symptoms and externalizing problems, a significant overall effect (5−18 years) was found, although no effect was found by age group (child; adolescent). For these outcomes, there remains a need to elucidate the timeframe when implementation of resilience-focused interventions is most appropriate.

Despite gender differences being consistently identified in both the prevalence of mental health problems[27-33] and in the type of resilience protective factors that children and adolescents use,[16,18] only 40% of resilience-focused intervention trials identified in the present review (23 of 57 trials) examined differential effect of intervention by gender, with only 5% (3 of 57 trials) providing data amenable to meta-analysis. Consequently, subgroup analysis by gender could not be performed, and narrative synthesis largely indicated no differential effect by gender for the 5 outcomes able to be considered, namely, depressive symptoms, anxiety symptoms, hyperactivity, internalizing problems, and general psychological distress. This conclusion should be interpreted with caution, however, because of the minimal number of trials in this summary and the inability to quantitatively support such findings through meta-analysis. Uncertainty remains about whether strategies targeting particular gender-related protective factors should be included in resilience-focused interventions so as to achieve more optimal reduction in mental health problems for all students.[18] Future trials of resilience-focused interventions could inform this issue by including analysis of differential effect of intervention by gender.

When examining intervention effect by length of follow-up, resilience-focused interventions were effective at short-term follow-up (≤12 months) for reducing depressive and anxiety symptoms. Although not directly comparable, the finding of a significant intervention effect for depressive symptoms at short-term follow-up is consistent with a previous meta-analysis examining the effect of multiple randomized controlled trials of the universal application of the PENN Resiliency Program (PRP) at 12-month follow-up,[24] and is inconsistent with the second of such meta-analyses, which found no evidence of effect for the outcomes of depressive and anxiety symptoms at immediate postintervention (no longer points of follow-up were examined in the second meta-analysis).[25] At long-term follow-up (>12 months), a significant effect was found for 1 of the 5 outcomes amenable to meta-analysis, namely, internalizing problems. Although depressive and anxiety symptoms are commonly considered components of internalizing problems, no significant effect was found for such outcomes at long-term follow-up. Visual inspection of related forest plots indicated variation in the direction of intervention

effects as a possible reason for such results; there was greater variation in direction of intervention effects (results mixed in favor of intervention and control) for the outcomes of depressive and anxiety symptoms in comparison to the outcome of internalizing problems (results consistently in favor of intervention). As neither of the above-mentioned meta-analyses[24,25] investigated intervention effect for length of follow-up greater than 12 months, such results cannot be compared to past research.

Lack of long-term follow-up in school-based intervention studies was evident. Achieving long-term implementation and collection of long-term follow-up data in school-based studies may be difficult for many reasons. These include already-high demand on time and resources within schools, high attrition in school-based studies,[103,104] and, as with all research, the collection of data across long-term points of follow-up requiring the establishment of long-term relationships between schools and research teams and long-term funding. However, with the development of resilience protective factors identified as a time-intense process[11] and systematic review evidence indicating some intervention trials to have delayed preventive effects identifiable only at later follow-up points[50] and lack of long-term follow-up points consequently resulting in potential underestimation of preventive effects,[50] and with the potential to better determine the cost versus benefit of implementing resilience-focused interventions should more studies include long-term outcomes, sustaining resilience-focused preventive efforts in schools and assessing longer-term effects present a worthwhile future focus in this field.

Finally, exploratory subgroup analyses enabled investigation of the impact of therapeutic basis on intervention effect. Consistent with and extending on the findings of a recent systematic review of depression prevention programs for children and adolescents by Hetrick *et al.*,[57] the present exploratory analyses found variation in intervention effect by therapeutic approach, indicating benefits of resilience-focused interventions based on CBT principles for depressive symptoms[57] and additionally for anxiety symptoms and general psychological distress. However, there remains the potential to further investigate what intervention qualities achieve the greatest positive effect per mental health problem outcome. In particular, the identification of common protective factors targeted, particularly when greater intervention effects are demonstrated, and relatedly the identification of what type and number of protective factors result in the greatest preventive effect for each mental health problem outcome, may help reduce variability in the field and aid in building more effective resilience-focused prevention interventions in the future.[11]

Strengths of the present review included coverage of a broad range of mental health outcomes, the pooling of study effects in the meta-analysis for each outcome, the examination of difference in intervention effect for children and adolescents, for short- and long-term follow-up, and the addition of exploratory subgroup analysis to examine

differences in intervention effect by therapeutic approach. Together, the findings suggest promise for using resilience-focused interventions for short-term reductions in depressive and anxiety symptoms, particularly if a CBT-based approach is used.

A limitation of the present review was an insufficient number of trials in some subgroups, thus precluding completion of all meta-analyses for subgroups specified a priori.[35] In addition, the number of trials reporting adequate data for meta-analyses varied by outcome and subgroup. Research suggests that the inclusion of 4 or fewer studies in random effects meta-analysis may result in imprecise estimations of between-study variance.[105] Therefore, results in the present review of meta-analyses based on minimal numbers of trials, such as for the outcomes of conduct problems, internalizing problems, and externalizing problems, should be interpreted with caution. Moreover, the risk of bias of included studies was rated high overall due to 2 key methodological limitations, namely, lack of blinding of key study personnel or participants, and common use of self-report outcome measures. Because of the nature of universal, school-based intervention trials, such study qualities may not easily be modified to reduce bias. However, it may be possible to improve the accuracy of reporting of mental health problems in such trials through multi-informant data collection.[34,99,106] Using the GRADE approach, the overall quality of evidence was moderate for all mental health problem outcomes except depressive symptoms, which was downgraded to low. These ratings were a result of methodological limitations of included trials, such as lack of blinding of participants and outcome assessment, and incomplete outcome data, in addition to potential publication bias in the case of the outcome of depressive symptoms. This suggests that the true effect may vary to the intervention effects reported in the review.

Furthermore, heterogeneity remained high for the outcomes of depressive symptoms and anxiety symptoms. For both outcomes, subgroup analyses by length of follow-up indicated a high degree of heterogeneity with short-term length of follow-up (depressive symptoms: $I^2 = 82\%$; anxiety symptoms: $I^2 = 86\%$) compared to long-term follow-up (depressive symptoms: $I^2 = 0\%$; anxiety symptoms: $I^2 = 0\%$). Inspection of related forest plots indicated that trials reporting short-term follow-up appeared to have greater variation in the direction of overall intervention effect than those reporting long-term follow-up. As such, the high degree of heterogeneity may be linked to variation in the direction of effect in studies of short-term compared to long-term follow-up. In addition, to further explore the source of such heterogeneity, subgroup analyses by size of study were conducted. For depressive symptoms, heterogeneity remained high for both small and large studies; there was no consistency in the direction of effect for small or large studies. In contrast, for anxiety symptoms, inspection of related forest plots indicated that large studies were more likely than small studies to demonstrate a significant effect of intervention, suggesting that the size of the study may be

a potential source of the high degree of heterogeneity for this outcome. Therefore, although the heterogeneous nature of interventions was anticipated a priori[35] and considered in the choice of the statistical methods used, conclusions of the present review should be considered in context of meta-analysis based at times on data from a minimal number of trials, including a diverse range of resilience-focused interventions (shown in Tables S1 and S2, available online) and with varying degrees of bias and study quality.

In addition, the present review examined the effect of only universal resilience-focused interventions. In a recent review by Werner-Seidler et al., of 81 trials of school-based depression and anxiety prevention programs for young people, researchers found small effects for both universal and targeted interventions.[107] Werner-Seidler et al. note possible merit in implementing interventions targeting both levels of prevention in the school setting, and suggest potential for a stepped-care approach whereby universal interventions are first implemented, with targeted interventions later implemented to aid students with increased risk or levels of mental health problems.[107] Such findings may valuably inform future school-based interventions targeting child and adolescent mental health problems.

Finally, resilience-focused interventions are based on the premise that strengthening resilience protective factors is an effective mechanism for positively influencing mental health in children and adolescents. It was not possible to test this in the current review, as very few trials also provided a measure of levels of the resilience protective factors targeted within the interventions. The inclusion of measures of protective factors in future evaluation trials will help determine whether protective factors are being strengthened and whether this is the mechanism responsible for some positive results for resilience-focused interventions, and support the identification of specific protective factors that have the greatest impact on mental health problem outcomes.

In conclusion, the present review supports some positive effects of resilience-focused interventions in relation to mental health problems in young people; however, such effects varied by mental health problem, age group, and length of follow-up. Overall, findings suggest promise for using resilience-focused interventions for short-term reductions in depressive and anxiety symptoms, particularly through the use of CBT-based approaches. Given the broad application of universal, school-based, resilience-focused interventions internationally, further consideration of the benefit of their implementation for particular mental health problems and age groups, as well as the achievable length of sustainable positive impact of such interventions, appears to be warranted. In addition, the complex task of further elucidating what intervention qualities (such as number and type of protective factors) are required to achieve the greatest positive effect for each mental health problem outcome remains an important area for future research. &

REFERENCES

1. Kieling C, Baker-Henningham H, Belfer M, *et al*. Child and adolescent mental health worldwide: evidence for action. Lancet. 2011;378:1515-1525.
2. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. Lancet. 2007;369:1302-1313.
3. Fergusson DM, Woodward LJ. Mental health, educational, and social role outcomes of adolescents with depression. Arch Gen Psychiatry. 2002;59:225-231.
4. Arnow BA. Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization. J Clin Psychiatry. 2004;65:10-15.
5. Kim-Cohen J, Caspi A, Moffitt TE, Harrington H, Milne BJ, Poulton R. Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. Arch Gen Psychiatry. 2003;60:709-717.
6. Windle G. What is resilience? A review and concept analysis. Rev Clin Gerontol. 2011;21:152-169.
7. Davydov DM, Stewart R, Ritchie K, Chaudieu I. Resilience and mental health. Clin Psychol Rev. 2010;30:479-495.
8. Luthar SS, Zelazo LB. Research on resilience: An integrative review. In: Luthar SS, ed. Resilience and Vulnerability: Adaptation in the Context of Childhood Adversities. New York: Cambridge University Press; 2003:510-549.
9. Sun J, Stewart DE. Promoting student resilience and wellbeing: Asia-Pacific Resilient Children and Communities Project. In: Lovat T, Toomey R, Clement N, eds. International Research Handbook on Values Education and Student Wellbeing. New York: Springer Science + Business Media; 2010:409-426.
10. Lee PC, Stewart DE. Does a socio-ecological school model promote resilience in primary schools? J Sch Health. 2013;83:795-804.
11. Cowen EL, Hightower AD, Pedro-Carroll JL, Work WC, Wyman PA, Haffey WG. The Rochester Child Resilience Project. School-based prevention for children at risk: The Primary Mental Health Project. Washington, DC: American Psychological Association; 1996:255-274.
12. Ungar M. Putting resilience theory into action: five principles for intervention. In: Liebenberg L, Ungar M, eds. Resilience in Action: Working With Youth Across Cultures and Contexts. Toronto, ON, Canada: University of Toronto Press; 2008:17-36.
13. Friedli L. Mental Health, Resilience and Inequalities. Copenhagen, Denmark: World Health Organisation; 2009.
14. Fergus S, Zimmerman MA. Adolescent resilience: a framework for understanding healthy development in the face of risk. Annu Rev Public Health. 2005;26:399-419.
15. Luthar SS, Cicchetti D. The construct of resilience: implications for interventions and social policies. Dev Psychopathol. 2000;12:857-885.
16. Bond L, Toumbourou JW, Thomas L, Catalano RF, Patton G. Individual, family, school, and community risk and protective factors for depressive symptoms in adolescents: a comparison of risk profiles for substance use and depressive symptoms. Prev Sci. 2005;6:73-88.
17. Hjemdal O, Aune T, Reinfjell T, Stiles TC. Resilience as a predictor of depressive symptoms: a correlational study with young adolescents. Clin Child Psychol Psychiatry. 2007;12:91-104.
18. Hjemdal O, Vogel PA, Solem S, Hagen K, Stiles TC. The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents. Clin Psychol Psychother. 2011;18:214-321.
19. Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. Child Dev. 2000;71:543-562.
20. Weisz JR, Sandler IN, Durlak JA, Anton BS. Promoting and protecting youth mental health through evidence-based prevention and treatment. Am Psychologist. 2005;60:628-648.
21. World Health Organisation. Health for the World's Adolescents. Geneva, Switzerland: World Health Organisation; 2014.
22. Seligman MEP, Ernst RM, Gillham J, Reivich K, Linkins M. Positive education: positive psychology and classroom interventions. Oxf Rev Educ. 2009;35:293-311.

23. Doll B, Lyon MA. Risk and resilience: implications for the delivery of educational and mental health services in schools. Sch Psychol Rev. 1998;27:348-363.

24. Brunwasser SM, Gillham JE, Kim ES. A meta-analytic review of the Penn Resiliency Program's effect on depressive symptoms. J Consult Clin Psychol. 2009;77:1042-1054.

25. Bastounis A, Callaghan P, Banerjee A, Michail M. The effectiveness of the Penn Resiliency Programme (PRP) and its adapted versions in reducing depression and anxiety and improving explanatory style: a systematic review and meta-analysis. J Adolesc. 2016;52:37-48.

26. Gillham JE, Brunwasser SM, Freres DR. Preventing depression in early adolescence: The Penn Resiliency Program. In: Abela JRZ, Hankin BL, eds. Handbook of Depression in Children and Adolescents. New York: Guilford Press; 2008:309-332.

27. Lawrence D, Hafekost J, Johnson SE, et al. Key findings from the second Australian Child and Adolescent Survey of Mental Health and Well-being. Aust N Z J Psychiatry. 2016;50:876-886.

28. Ivancic L, Perrens B, Fildes J, Perry Y, Christensen H. Youth Mental Health Report. Randwick, NSW, Australia: Mission Australia and Black Dog Institute; 2014.

29. Mellor D. Normative data for the Strengths and Difficulties Questionnaire in Australia. Aust Psychologist. 2005;40:215-222.

30. Green H, McGinnity A, Meltzer H, Ford T, Goodman R. Mental Health of Children and Young People in Great Britain, 2004. London, UK: Office of National Statistics, Stationary Office; 2005.

31. Pastor PN, Reuben CA, Duran CR. Identifying Emotional and Behavioral Problems in Children Aged 4–17 Years: United States, 2001–2007. Bethesda, MD: U.S. Department of Helath and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.

32. Dray J, Bowman J, Freund M, et al. Mental health problems in a regional population of Australian adolescents: association with socio-demographic characteristics. Child Adolesc Psychiatry Ment Health. 2016;10:32.

33. Rescorla L, Achenbach TM, Ivanova MY, et al. Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries. J Consult Clin Psychol. 2007;75:351-358.

34. Lowry-Webster HM, Barrett PM, Lock S. A universal prevention trial of anxiety symptomology during childhood: results at 1-year follow-up. Behav Change. 2003;20:25-43.

35. Dray J, Bowman J, Wolfenden L, et al. Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting: review protocol. Syst Rev. 2015;4:186.

36. Moher D, Shamseer L, Clarke M, et al. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015 statement. Syst Rev. 2015;4:1-9.

37. Moher D, Liberati A, Tetzlaff J, Altman DG; The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA Statement. PLoS Med. 2009;6:e1000097.

38. Shochet IM, Ham D. Universal school-based approaches to preventing adolescent depression: past findings and future directions of the Resourceful Adolescent Program. Int J Ment Health Promot. 2004; 6:17-25.

39. Leppin AL, Bora PR, Tilburt JC, et al. The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. PLoS One. 2014;9:e111420.

40. Hoagwood KE, Olin SS, Kerker BD, Kratochwill TR, Crowe M, Saka N. Empirically based school interventions targeted at academic and mental health functioning. J Emot Behav Disord. 2007;15:66-92.

41. Kidger J, Araya R, Donovan J, Gunnell D. The effect of the school environment on the emotional health of adolescents: a systematic review. Pediatrics. 2012;129:925-949.

42. Merry SN, Hetrick SE, Cox GR, Brudevold-Iversen T, Bir JJ, McDowell H. Psychological and educational interventions for preventing depression in children and adolescents. Cochrane Database Syst Rev. 2011;12:Cd003380.

43. Novins DK, Green AE, Legha RK, Aarons GA. Dissemination and implementation of evidence-based practices for child and adolescent mental health: a systematic review. J Am Acad Child Adolesc Psychiatry. 2013;52:1009-1025.

44. Sancassiani F, Pintus E, Holte A, et al. Enhancing the emotional and social skills of the youth to promote their wellbeing and positive development: a systematic review of universal school-based randomized controlled trials. Clin Pract Epidemiol Ment Health. 2015;11:21-40.

45. Spence SH, Shortt AL. Research review: Can we justify the widespread dissemination of universal, school-based interventions for the

46. prevention of depression among children and adolescents? J Child Psychol Psychiatry. 2007;48:526-542.

46. Waddell C, Hua JM, Garland OM, Peters RD, McEwan K. Preventing mental disorders in children: a systematic review to inform policy-making. Can J Public Health. 2007;98:166-173.

47. Wolf JL. A meta-analysis of primary preventive interventions targeting the mental health of children and adolescents: a review spanning 1992–2003. Dissertation Abst Int Sect B Sci Eng. 2005;66:3431.

48. Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB. The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. Child Dev. 2011;82: 405-432.

49. Neil AL, Christensen H. Australian school-based prevention and early intervention programs for anxiety and depression: a systematic review. Med J Australia. 2007;186:305-308.

50. Calear AL, Christensen H. Systematic review of school-based prevention and early intervention programs for depression. J Adolesc. 2010;33: 429-438.

51. Covidence systematic review software [computer program]. Melbourne, VIC, Australia: Available at www.covidence.org. Accessed July 31, 2017.

52. Stead LF, Koilpillai P, Fanshawe TR, Lancaster T. Combined pharmacotherapy and behavioural interventions for smoking cessation. Cochrane Database Syst Rev. 2016;3:CD008286.

53. Cahill K, Hartmann-Boyce J, Perera R. Incentives for smoking cessation. Cochrane Database Syst Rev. 2015;5:CD004307.

54. Hodder RK, Freund M, Wolfenden L, et al. Systematic review of universal school-based resilience interventions targeting adolescent tobacco, alcohol or illicit drug use: review protocol. BMJ Open. 2014;4: e004718.

55. Stockings EA, Degenhardt L, Dobbins T, et al. Preventing depression and anxiety in young people: a review of the joint efficacy of universal, selective and indicated prevention. Psychol Med. 2016;46:11-26.

56. Domitrovich CE, Greenberg MT. The study of implementation: current findings from effective programs that prevent mental disorders in school-aged children. J Educ Psychol Consult. 2000;11:193-221.

57. Hetrick SE, Cox GR, Merry SN. Where to go from here? An exploratory meta-analysis of the most promising approaches to depression prevention programs for children and adolescents. Int J Environ Res Public Health. 2015;12:4758-4795.

58. Review Manager (RevMan) Version 5.3 [computer program]. Copenhagen, Denmark: Nordic Cochrane Centre, Cochrane Collaboration; 2014.

59. Borenstein M, Hedges LV, Higgins JPT, Rothstein HR. Introduction to meta-analysis. Chichester, UK: Wiley; 2009.

60. Cochrane Collaboration. Cochrane Handbook for Systematic Reviews of Interventions. Version 5.1.0 [updated March 2011]. The Cochrane Collaboration. Available form www.cochrane-handbook.org; 2011. Accessed December 16, 2016.

61. GRADE Working Group. Grading quality of evidence and strength of recommendations. BMJ. 2004;328:1490-1494.

62. Guyatt GH, Oxman AD, Vist GE, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ. 2008;336:924-926.

63. Guyatt GH, Oxman AD, Kunz R, et al. What is "quality of evidence" and why is it important to clinicians? BMJ. 2008;336:995-998.

64. Dray J, Bowman J, Freund M, et al. Improving adolescent mental health and resilience through a resilience-based intervention in schools: study protocol for a randomised controlled trial. Trials. 2014;15:289.

65. Ford T, Edwards V, Sharkey S, et al. Supporting teachers and children in schools: the effectiveness and cost-effectiveness of the Incredible Years teacher classroom management programme in primary school children: a cluster randomised controlled trial, with parallel economic and process. BMC Public Health. 2012;12:719.

66. Santalahti P, Kampman M, Liski A, Appelqvist-Schmidlechner K, Bjorklund K, Solantaus T. School programme to promote children's social and emotional competences and well being. Eur Child Adolesc Psychiatry. 2013;1:S179-S180.

67. Bjorklund K, Liski A, Samposalo H, et al. "Together at school"–a school-based intervention program to promote socio-emotional skills and mental health in children: study protocol for a cluster randomized controlled trial. BMC Public Health. 2014;14:1042.

68. Bonell C, Allen E, Christie D, et al. Initiating Change Locally in Bullying and Aggression Through the School Environment (INCLUSIVE): study protocol for a cluster randomised controlled trial. Trials. 2014;15:381.

69. LeBreton JM, Senter JL. Answers to 20 questions about interrater reliability and interrater agreement. Organizat Res Methods. 2008;11:815-852.

70. Cardemil EV, Reivich KJ, Beevers CG, Seligman ME, James J. The prevention of depressive symptoms in low-income, minority children: two-year follow-up. Behav Res Ther. 2007;45:313-327.

71. Petersen AC, Leffert N, Graham B, Alwin J, Ding S. Promoting mental health during the transition into adolescence. In: Schulenberg J, Maggs JL, Hurrelmann K, eds. Health Risks and Developmental Transitions During Adolescence. Cambridge, UK: Cambridge University Press; 1997.

72. Greenberg MT, Kusche CA, Cook ET, Quamma JP. Promoting emotional competence in school-aged children: the effects of the PATHS curriculum. Dev Psychopathol. 1995;7:117-136.

73. Hundert J, Boyle MH, Cunningham CE, et al. Helping Children Adjust–a Tri-Ministry Study: II. Program effects. J Child Psychol Psychiatry. 1999;40:1061-1073.

74. Fitzpatrick C, Power M, Brosnan E, Cleary D, Conlon A, Guerin S. Working things out through SPHE–a journey from community to clinic and back. Advanc Sch Ment Health Promot. 2009;2:38-45.

75. Bond L, Patton G, Glover S. The Gatehouse Project: can a multilevel school intervention affect emotional wellbeing and health risk behaviours? J Epidemiol Community Health. 2004;58:997-1003.

76. Patton GC, Bond L, Carlin JB, et al. Promoting social inclusion in schools: a group-randomised trial of effects on student health risk behaviour and well-being. Am J Public Health. 2006;96:1582-1587.

77. Hong L, Yufeng W, Agho K, Jacobs J. Preventing behavior problems among elementary schoolchildren: impact of a universal school-based program in China. J Sch Health. 2011;81:273-280.

78. Possel P, Adelson JL, Hautzinger M. A randomized trial to evaluate the course of effects of a program to prevent adolescent depressive symptoms over 12 months. Behav Res Ther. 2011;49:838-851.

79. Chaplin TM, Gillham JE, Reivich K, et al. Depression prevention for early adolescent girls: a pilot study of all girls versus co-ed groups. J Early Adolesc. 2006;26:110-126.

80. Horowitz JL, Garber J, Ciesla JA, Young JF, Mufson L. Prevention of depressive symptoms in adolescents: a randomized trial of cognitive-behavioral and interpersonal prevention programs. J Consult Clin Psychol. 2007;75:693-706.

81. Lock S, Barrett PM. A longitudinal study of developmental differences in universal preventive intervention for child anxiety. Behav Change. 2003;20:183-199.

82. Merry S, McDowell H, Wild CJ, Bir J, Cunliffe R. A randomized placebo-controlled trial of a school-based depression prevention program. J Am Acad Child Adolesc Psychiatry. 2004;43:538-547.

83. Buttigieg JP, Shortt AL, Slaviero TM, Hutchinson D, Kremer P, Toumbourou JW. A longitudinal evaluation of the Resilient Families randomized trial to prevent early adolescent depressive symptoms. J Adolesc. 2015;44:204-213.

84. Kindt KCM, Kleinjan M, Janssens JMAM, Scholte RHJ. Evaluation of a school-based depression prevention program among adolescents from low-income areas: a randomized controlled effectiveness trial. Int J Environ Res Public Health. 2014;11:5273-5293.

85. Tak YR, Lichtwarck-Aschoff A, Gillham JE, Van Zundert RM, Engels RC. Universal school-based depression prevention 'Op Volle Kracht': a longitudinal cluster randomized controlled trial. J Abnorm Child Psychol. 2016;44:949-961.

86. Tomba E, Belaise C, Ottolini F, et al. Differential effects of well-being promoting and anxiety-management strategies in a non-clinical school setting. J Anxiety Disord. 2010;24:326-333.

87. Roberts CM, Kane R, Bishop B, Cross D, Fenton J, Hart B. The prevention of anxiety and depression in children from disadvantaged schools. Behav Res Ther. 2010;48:68-73.

88. Araya R, Fritsch R, Spears M, et al. School intervention to improve mental health of students in Santiago, Chile: a randomized clinical trial. JAMA Pediatr. 2013;167:1004-1010.

89. Barrett P, Turner C. Prevention of anxiety symptoms in primary school children: preliminary results from a universal school-based trial. Br J Clin Psychol. 2001;40:399-410.

90. Jones SM, Brown JL, Aber JL. Two-year impacts of a universal school-based social-emotional and literacy intervention: an experiment in translational developmental research. Child Dev. 2011;82:533-554.

91. Pattison C, Lynd-Stevenson RM. The prevention of depressive symptoms in children: the immediate and long-term outcomes of a school-based program. Behav Change. 2001;18:92-102.

92. Rooney R, Hassan S, Kane R, Roberts CM, Nesa M. Reducing depression in 9-10 year old children in low SES schools: a longitudinal universal randomized controlled trial. Behav Res Ther. 2013;51:845-854.

93. Sawyer MG, Harchak TF, Spence SH, et al. School-based prevention of depression: a 2-year follow-up of a randomized controlled trial of the Beyondblue Schools Research Initiative. J Adolesc Health. 2010;47:297-304.

94. Calear AL, Christensen H, Mackinnon A, Griffiths KM, O'Kearney R. The YouthMood Project: a cluster randomized controlled trial of an online cognitive behavioral program with adolescents. J Consult Clin Psychol. 2009;77:1021-1032.

95. Miller LD, Laye-Gindhu A, Bennett JL, et al. An effectiveness study of a culturally enriched school-based CBT anxiety prevention program. J Clin Child Adolesc Psychol. 2011;40:618-629.

96. Miller LD, Laye-Gindhu A, Liu Y, March JS, Thordarson DS, Garland EJ. Evaluation of a preventive intervention for child anxiety in two randomized attention-control school trials. Behav Res Therapy. 2011;49:315-323.

97. Parker AE, Kupersmidt JB, Mathis ET, Scull TM, Sims C. The impact of mindfulness education on elementary school students: evaluation of the Master Mind program. Advanc Sch Ment Health Promot. 2014;7:184-204.

98. Myles-Pallister JD, Hassan S, Rooney RM, Kane RT. The efficacy of the enhanced Aussie Optimism Positive Thinking Skills Program in improving social and emotional learning in middle childhood. Front Psychol. 2014;5:909.

99. Trudeau L, Spoth R, Randall GK, Azevedo K. Longitudinal effects of a universal family-focused intervention on growth patterns of adolescent internalizing symptoms and polysubstance use: gender comparisons. J Youth Adolesc. 2007;36:725-740.

100. Masten AS. Global perspectives on resilience in children and youth. Child Dev. 2014;85:6-20.

101. Greenberg MT. Promoting resilience in children and youth; preventative interventions and their interface with neuroscience. Ann N Y Acad Sci. 2006;1094:139-150.

102. Lee TY, Cheung CK, Kwong WM. Resilience as a positive youth development construct: a conceptual review. Sci World J. 2012;2012:390450.

103. Ellickson PL, Bianca D, Schoeff DC. Containing attrition in school-based research: an innovative approach. Eval Rev. 1988;12:331-351.

104. Pirie P, Thomson SJ, Mann SL, et al. Tracking and attrition in longitudinal school-based smoking prevention research. Prev Med. 1989;18:249-256.

105. Higgins JPT, Thompson SG, Spiegelhalter DJ. A re-evaluation of random-effects meta-analysis. J R Stat Soc Ser A Stat Soc. 2009;172:137-159.

106. Fitzpatrick C, Conlon A, Cleary D, Power M, King F, Guerin S. Enhancing the mental health promotion component of a health and personal development programme in Irish schools. Advanc Sch Ment Health Promot. 2013;6:122-138.

107. Werner-Seidler A, Perry Y, Calear AL, Newby JM, Christensen H. School-based depression and anxiety prevention programs for young people: a systematic review and meta-analysis. Clin Psychol Rev. 2017;51:30-47.

Table S1. Characteristics of Included Studies (Ordered Child: Author, Year; Adolescent: Author, Year)

Author, Year	Country	Study design (RCT/ CRCT)	Participants: Grade, age range (mean in years), gender (% male)	Intervention description	Protective factors targeted[a]	Summary of findings and follow-up	Measurement tools; outcomes contributed to meta-analysis
CHILD STUDIES							
Barrett, 2001 [1-3]	Australia	CRCT	Grade 6, 10-12 years (M: 10.75), 50.5% male.	Friends for Children, CBT-based, 10 sessions (70 mins wkly), 2 boosters, and 4 parent sessions, 3 conditions: psychologist-led (PI) int vs. teacher-led (TI) int vs. standard curriculum (SC) cont.	Cognitive competence, self-awareness, coping.[i]	Significant reductions in anxiety symptoms for both intervention groups (SCAS and RCMAS) at post-int. Significant increase in depressive symptoms for TI group, no difference in depressive symptoms for other groups (PI and cont).	SCAS (anxiety symptoms) CDI (depressive symptoms)
Clarke, 2014 [4-9]	Ireland	CRCT	Grade 1, 7-8 years (M: 7.25), 51.9% male.	Zippy's Friends, emotional wellbeing program, 24 sessions (6 modules) over 1 academic year (60 mins wkly), 3 conditions: int Type I (programme implemented faithfully) vs. int Type II (programme as a resource) vs. cont.	Social and emotional skills/competence, problem solving/decision making, self-control, self-esteem, empathy, co-operation and communication, coping skills.[i]	No significant effect of int for hyperactivity score at post-int or 12mth follow-up. Significant decrease in conduct problems score between pre- and post-int in favor of cont. Not sustained at 12-mth follow-up.	SDQ (hyperactivity, conduct problems)
Collins, 2014 [10-12]	Scotland	CRCT	Primary schools (Grade: np), 9-10 years (overall M:	Lessons for living: Think well, Do well, CBT-based, 10 lesson	Empathy, self-regulation, coping, problem	Significant int effect for anxiety symptoms at post-int and 6 mth follow-up. No	SCAS (anxiety symptoms)

			np). PL: (M: 10.17), 55.0% male, TL: (M: 9.83), 61.6% male, C: (M: 10.25), 48.3% male.	programme during regular personal and social education lessons (lesson length: np), 3 conditions: psychologist-led (PL) int vs. teacher-led (TL) int vs. comparison (C).	solving/decision making, emotional regulation, cognitive competence, peer caring relationships.[ie]	significant differences between PL and TL int groups.	
Essau, 2012 [13,14]	Germany	CRCT	Grade: np, 9-12 years (M: 10.91), 54.2% male.	FRIENDS program, CBT-based prevention program, 10 sessions (60 mins wkly) + 2 booster sessions (1 mth, 3 mth), + 4 parent sessions, 2 conditions: int vs. cont.	Empathy, cognitive competence, coping, problem solving/decision making, goals and aspirations.[i]	Significant int effect for anxiety symptoms at 12 mth follow-up and depressive symptoms for 6 and 12 mth follow-up. Immediate int effect for anxiety symptoms for younger children (9–10-years) at post-int not sustained at 6 and 12 mth. Delayed int effect for anxiety symptoms, for older children (11–12-years) at 6- and 12-mth follow-up.	SCAS German version (anxiety symptoms) RCADS (depressive symptoms)
Greenberg, 1995 [15]	United States	CRCT	Grades1-3, 6.4 - 10.5 years (M: 8.0), 58.4% male.	PATHS (Promoting Alternative Thinking Strategies) curriculum, based on ABCD (affective-behavioral-cognitive-dynamic) model of development, 60 sessions delivered during most of one school year, (3 x 20-30min sessions	Empathy, emotional regulation, self-control, social and emotional competence, problem solving/decision making, co-operation and communication.[i]	No main effects of int reported for CBCL-TRF scores. Int effect was assessed by level of internalizing and externalizing problems at post-test. Relatively few significant effects were found, and concerned interactions with improved	CBCL-TRF (internalizing and externalizing scores) [DNU]

				per wk), 2 conditions: int vs. cont.		efficacy of abilities to change feelings and ability to provide personal examples of feelings.	
Holen, 2012 [16-18]	Norway	CRCT	Grade 2, 7-8 years (M: 7.3), 50.7% male.	Zippy's Friends, coping skills program, 24 wkly lessons (lesson length: np) delivered over a minimum of 8 mths, 2 conditions: int vs. cont.	Coping, emotional regulation, co-operation and communication.[i]	No int effect for parent or teacher report for hyperactivity and conduct problem scores at post-test.	SDQ Norwegian version (hyperactivity, conduct problems)
Hong, 2011 [19]	China	CRCT	Grade 3, 8 year olds (overall M: np), int: (M: 9.15), 55.3% male, cont: (M: 9.3), 53.1% male.	Cognitive Behavioral Therapy (CBT), 13 sessions over 3mths (70 mins wkly), 2 conditions: int vs. cont.	Self-esteem, empathy, problem solving/decision making, social and emotional competence, self-awareness, co-operation and communication, emotional regulation, self-regulation, coping, social and emotional skills, peer caring relationships.[ie]	Significant int effect for all behavioral problems outcomes at post-test, and 6-mth follow-up.	CBCL-parent version (internalizing, externalizing and total problem behavior scores)
Hundert, 1999 [20-22]	Canada	CRCT	Primary division up to Grade 3, age range: np (M: 6.5), 50.6% male.	Tri-Ministry study Classwide Social Skills Program, delivered for a minimum of 2 consecutive school terms, 22 lessons (20 mins), 4	SS program: social and emotional skills, problem solving, social and emotional competence, co-operation and	Significant curvature (growth trajectory analysis) indicating int effect on teacher-rated externalizing problems for the SS and RE groups at 3.5 yrs follow-up. Significant	CBCL- teacher and parent versions (externalizing problems score) [DNU]

				conditions: social skills training (SS), vs. partner reading (RE), vs. both (SS and RE) vs. wait list cont.	communication, empathy, coping.[i] RE program: none.	small linear decrease for parent-rated externalizing problems for the SS group only, at 3.5 yrs follow-up.	
Jones 2010 [23-25]	United States	CRCT	Grade 3, age range: np (M: 8.17), 49.1% male.	4Rs Program: Reading, Writing, Respect, and Resolution (developmental int focused on social–emotional learning and literacy development, developmental cascades theory and research), 7-units, 21-35 lessons (50 mins) throughout 1 school year, implemented over 3 consecutive school years, 2 conditions: int vs. cont.	Social and emotional competence, empathy, co-operation and communication, self-regulation, community meaningful participation.[ie]	Significant int effect for depressive symptoms only at 1 yr follow-up (wave 2). Significant int effect for both depressive symptoms and ADHD (hyperactivity scale) at 2 yr follow-up (growth trajectory analysis waves 1-4).	DISC-PS (depressive symptoms) ADHD Symptomatology Scale (attention/ hyperactivity symptoms)
Malti, 2011 [26]	Switzerland	CRCT	Grade 1, 7-11 years (M: 7.45), 52% male.	PATHS (Promoting Alternative Thinking Strategies) program, developmental and risk-and-resiliency framework, 1 year program consisting of 46 primary lessons and several secondary ones per year, (67 mins/ 2.4 sessions per wk), 4 conditions: social competence int [PATHS]	PATHS: problem solving/decision making, self-regulation, self-esteem, social and emotional competence/ social and emotional skills, empathy.[i] PATHS + Triple-P: PATHS components[i] +	No int effect for all outcomes at post-test. Moderate significant int effect for teacher-rated impulsivity/ADHD only for PATHS group at 2 yr follow-up, moderated by baseline impulsivity/ADHD (only children with high impulsivity/ ADHD at	SBQ-ADHD-TR (Impulsivity/Attention/ADHD) SBQ-NACD-TR (non-aggressive conduct disorders)

				vs. parental training int (Triple-P [Positive Parenting Program] program) vs. both (PATHS+Triple P) vs. cont.	a parental training course component.	baseline benefited from the PATHS int).	
Miller, 2011 [27-29]	Canada	CRCT	Grades 2-7, age range: np (M: 9.77), 49.9% male.	FRIENDS for Life program infused with additional Aboriginal specific curriculum content, CBT-based prevention program, 9 sessions (60mins wkly), + 1 review session, 2 conditions: int vs. cont group.	FRIENDS: Cognitive competence, self-awareness, coping.[i] Aboriginal content: eight culturally sensitive elements: language, person, metaphors, content, concepts, goals, methods, and context.	Significant reduction in overall anxiety symptoms between time 2 (immediate-post) and 3 (3 mth follow-up) only. Non-significant reductions in overall anxiety symptoms across time points.	MASC (anxiety symptoms)
Miller, 2011 [29,30]	Canada	CRCT	Grades 4-6, age range: np (M: 9.8), 46% male.	FRIENDS for Life program, CBT-based prevention program, 9 sessions (60mins wkly), 2 conditions: int vs. cont.	Cognitive competence, self-awareness, coping.[i]	No significant int effect; anxiety symptoms decreased across time across all conditions.	MASC (anxiety symptoms)
Myles-Pallister, 2014 [31-35]	Australia	CRCT	Grades 4-5, 8.75-11.58 years (M: np), 51.2% male.	Aussie Optimism Positive Thinking Skills Program (AO-PTS), modified and enhanced social and emotional learning (SEL) skills program, 10	Empathy, self-awareness, cognitive competence, self-esteem, self-regulation.[i]	Reduced levels across all SDQ scores however only significant for total difficulties and hyperactivity.	SDQ-P (hyperactivity, conduct problems, total difficulties score)

				sessions (60 mins wkly), 2 conditions: int vs. cont.			CDI (depressive symptoms)
							SCAS (anxiety symptoms)
Parker, 2014 [36]	United States	CRCT	Grade 4-5, 9-11 years (M: 10.09), 42.3% male.	Master Mind Program (mindfulness education and training program), 20 lessons in total (15 mins daily) over a 4 week period. 2 conditions: int vs wait list cont.	Self-awareness, emotional regulation, cognitive competence, social and emotional competence, problem solving/decision making.[i]	No main effect for anxiety symptoms was reported. Significant int effect by gender: girls in the int group had lower teacher-rated anxiety symptoms compared to the girls in the cont group at post-test.	CBCL-TRF (anxiety symptoms)
Pattison, 2001 [37]	Australia	RCT	Grades 5-6, 9-12 years (M:10.44), 48% male	Penn Preventive Program (cognitive-behavioral), 10 sessions (2 hours wkly), plus a review session. 4 conditions: Normal Penn program int vs. Reverse Penn Program int vs. attention cont group vs. non-participation cont group.	Cognitive competence, self-regulation, emotional regulation, social and emotional competence/skills, problem solving/decision making, co-operation and communication.[i]	No int effect on depressive symptoms or anxiety symptoms at post-test or 8 mth follow-up.	CDI (depressive symptoms) STAIC (anxiety symptoms)
Rooney, 2006 [38,39]	Australia	CRCT	Grade 4, 8-9 years (M: 9.08), 56.7% male.	The Positive Thinking Program (PTP), CB principles, 8 sessions (60 mins wkly), 2 conditions: int vs. cont.	Empathy, self-regulation, cognitive competence, social and emotional competence.[i]	Significant int effect for depressive symptoms at post-test, not sustained at 9 and 18 mth follow-ups.	CDI (depressive symptoms) RCMAS (anxiety symptoms)

Rooney, 2013 [39-42]	Australia	CRCT	Grade 4, 9-10 years (M=8.75), 51.4% male.	The Aussie Optimism: Positive Thinking Skills Program (AOP-PTS), mental health promotion program, CBT principles, 10 sessions (60-min wkly), 2 conditions: int vs. cont (regular Health Education curriculum).	Empathy, self-regulation, cognitive competence, social and emotional competence.[i]	Significant int effect for child reported depressive symptoms, and parent-reported total difficulties score at post-test, 6 and 18 mth follow-up. No int effect for child reported anxiety symptoms: symptoms decreased across assessments at the same rate for both groups. No int effect for parent-reported prosocial behavior, increased for both groups across assessments.	CDI (depressive symptoms) SCAS (anxiety symptoms) SDQ-P (hyperactivity, conduct problems, total difficulties score)
Schonert-Reichl, 2015 [43,44]	Canada	CRCT	Grades 4-5, 9-11.16 years (M: 10.24yrs), 46% male.	MindUP, social and emotional learning (SEL) program, mindfulness-based, derived from psychological theory, 12 lessons (40-50 mins wkly) + mindfulness practices (3 mins, 3 times daily). 2 conditions: int vs cont (regular social responsibility program)	IV: Empathy, social and emotional skills, self-awareness, self-regulation, pro-social peers, school and community meaningful participation.[ie] Social responsibility cont: school meaningful participation, problem solving/decision making, moral competence.[ie]	Significant int effect for self-report depressive symptoms at immediate post-test.	SPQC (depressive symptoms)

Stallard, 2012[28,45,46]	England	CRCT	Grades 4-5, 9-10 year olds, (overall M:np), 48.6% male	FRIENDS, CBT-based, 9 sessions (60 min wkly), 3 conditions: school-led FRIENDS (led by teacher or school staff member), vs. health-led FRIENDS (led by two trained health facilitators), vs. cont (usual school provision, Personal and Social Health -PSHE classes).	Int: emotional regulation, cognitive competence, problem solving/decision making, coping.[i]	Significant int effect child-reported generalized anxiety symptoms for health-led vs school-led FRIENDS, and health-led FRIENDS vs usual school provision at 12 mth follow-up. No int effect for child-reported depressive symptoms. There were no differences in parent-reported total difficulties score.	RCADS (depressive symptoms and anxiety symptoms) SDQ-PR (total difficulties score)

ADOLESCENT STUDIES

Araya, 2013[47,48]	Chile	CRCT	Secondary school students, 14-15 years (M: 14.5), 55.5% male.	I (*Yo*), Think (*Pienso*), Feel (*Siento*), and Act (*Actuo*), CBT based, 11 sessions (1 hr ea wkly) + 2 booster sessions, 2 conditions: int vs. cont (standard curriculum).	Cognitive competence, empathy, problem-solving.[i]	No evidence of effect on depressive symptoms or anxiety symptoms at 3 mth and 12 mth.	BDI-II (depressive symptoms) RCADS (anxiety symptoms)
Barnes, 2012[49,50]	United States	RCT	Grade 9 students, age range: np (M: 15.7), 47% male.	Williams LifeSkills (WLS), stress-related coping skills, 12 wkly modules (50 mins ea), 2 conditions: int vs. cont (health education class training).	Self-awareness, cognitive competence, problem solving/ decision making, co-operation and communication, empathy, social and emotional competence.[i]	No significant int effect. Non-significant reductions in anxiety symptoms for the int group level at 1-wk post-int, and 3mth, which levelled at 6mth follow-up; control group anxiety symptoms decreased by 6 mth follow-up.	BASC (anxiety symptoms)

Bond, 2004 [51-59]	Australia	CRCT	*Gatehouse cohort sample*: Grade 8 students, 13-14 years (M:14.0), 46.8% male	Gatehouse, HPS approach, 3 year multilevel int, capacity building/social climate (40 hrs per yr) and curriculum components (20 lessons ~ 15 hours, Yr 1), 2 conditions: int vs usual practice cont.	Communication and co-operation, self-efficacy, problem-solving/ decision making, social and emotional competence/skills, school support/ meaningful participation/caring relationships, home support, peer caring relationships.[ie]	No evidence of effect on depressive symptoms across 4 waves of data.	CIS-R (depressive symptoms) [DNU]
Burckhardt, 2015 [60]	Australia	CRCT	Grades 7-12, age range: np (M:12.6-15.6), 40.8% male.	Bite Back, positive psychology program, 4-6 wks (6 hrs online content), int vs. cont (alternate non-resilience-focused program).	Self-awareness, self-regulation, emotional regulation, activities for 'building resilience'.[i]	No significant int effect for anxiety symptoms or depressive symptoms at immediate post-int. Non-significant reduction in depressive symptoms for both groups.	DASS-21 (anxiety symptoms and depressive symptoms scores)
Calear, 2009 [61,62]	Australia	CRCT	Grades 9-11, 12-17 years (M:14.34), 44% male.	YouthMood Project: MoodGYM project, CBT based, 5 wkly modules (20-40mins ea), int vs waitlist cont.	Cognitive competence, self-esteem, self-regulation, problem-solving, social and emotional competence.[i]	Significant reduction in anxiety symptoms at immediate post-int and 6 mth follow-up. No evidence of overall effect for depressive symptoms.	RCMAS (anxiety symptoms) CES-D (depressive symptoms)

Cardemil, 2002 [63-65]	United States	RCT	Grades 5-6, age range: np (M: 11.12), 50% male.	Penn Resiliency Program (PRP, CBT based coping skills program, 12 sessions (90 mins wkly), 2 conditions: int vs. no treatment cont, divided into Study 1 (Latino children) and Study 2 (African-American children) for results.	Cognitive competence, co-operation and communication, goals and aspirations, problem-solving.[i]	Study 1 (Latino children) Significant reduction in depressive symptoms at immediate post-int, maintained at 6, 12 and 24 mth follow-ups. Study 2 (African-American children): No significant int effect. Non-significant reduction in depressive symptoms at across times points from immediate post-int, to 6, 12 and 24 mth follow-ups.	CDI (depressive symptoms)[DNU]
Chaplin, 2006 [66]	United States	RCT	Grades 6-8, 11-14 years (M: 12.16), 50.5% male.	PRP, CBT based depressive symptoms prevention program, 12 sessions (90 mins wkly), 3 conditions: all girls int, vs. co-ed int vs. cont.	Cognitive competence, self-regulation, emotional regulation, social and emotional competence, decision making, co-operation and communication.[i]	Significant effect on depressive symptoms for both int groups (girls only, and co-ed) at immediate post-int.	CDI (depressive symptoms)
Fitzpatrick, 2009 [67,68]	Ireland	CRCT	Secondary schools (Grade np), age range: np, 31.4% male	Working things out – the Social, Personal and Health Education Programme (SPHE), narrative-based DVD resource, 9 lessons (one class period length np, weekly), 2 conditions:	Pilot study, protective factor details as below for main CRCT (Fitzpatrick, 2013).[ie]	No significant int effect. Non-significant reduction in mean total difficulties score for int group at immediate post-int and 6 mth follow-up.	SDQ (hyperactivity, conduct problems, total difficulties score)[DNU]

				standard program (SP: cont) vs. enhanced program (EP: int).			
Fitzpatrick, 2013 [69-71]	Ireland	CRCT	Second year of secondary school, 12-16 years (M: 13.6), 53% male.	Working things out – SPHE, narrative-based DVD resource, 10 modules (SP: one class, length np, wkly over 8 mths; EP: across 12 x 40 minute class periods, over 8 mth), 2 conditions: standard program (SP: int) vs. enhanced program (EP: int).	SP: Co-operation and communication, self-regulation, social and emotional competence, decision-making, coping skills, spirituality, peer-caring relationships, school meaningful participation.[ie] EP: SP+9 'Working things out' modules on mental health promotion and problem solving.[ie]	Non-significant improvement for conduct problems and total difficulties scores at immediate post-int.	SDQ (hyperactivity, conduct problems, total difficulties score)
Gillham, 2007 [72-75]	United States	RCT	Grades 6-8, age range: np, (M: 12.13), 54% male.	PRP, CBT based depressive symptoms prevention program, 12 sessions (90 mins wkly PRP and PEP grps), 3 conditions: PRP, vs. 'Penn Enhancement Program (PEP)' (alt int) vs. cont.	PRP: Cognitive competence, coping skills, problem-solving, co-operation and communication, decision-making, self-regulation.[i] PEP: Co-operation and communication, goals	No evidence of effect on depressive symptoms in overall sample across 36 mth follow-up.	CDI (depressive symptoms) CBCL (internalizing and externalizing problems)

						and aspirations, self-esteem.[i]	
Horowitz, 2007 [76,77]	United States	RCT	Grade: np (94% 'freshman'), (M:14.43), 46% male	Cognitive behavioral (CB) psychoeducational program, 8 sessions (90 mins wkly), CB and IPT-AST groups), 3 conditions: CB vs. IPT-AST (alt interpersonal skills based int) vs. standard curriculum cont.	CB: goals and aspirations, cognitive competence, problem solving/decision making, coping.[i] IPT-AST: social and emotional skills/competence.[i]	Positive int effect for depressive symptoms measured by the CDI for the CB group at post-int, not sustained at 6 mth follow-up.	CDI (depressive symptoms)
Kindt, 2012 [78-81]	Netherlands	CRCT	Grades 7 and 8, 11-16 years (M: 13.42), 47.7% male.	Op Volle Kracht (OVK), depressive symptoms prevention program based off PRP, 16 lessons (50 mins wkly), 2 conditions: int vs. standard curriculum cont.	Cognitive competence, coping skills, social and emotional competence, co-operation and communication, self-regulation.[i]	No evidence of effect on depressive symptoms at 12mth follow-up.	CDI (depressive symptoms)
Leventhal, 2015 [82]	India	RCT	Grade 'VII-VII Stds', age range: np (M: 12.99), 100% female.	Girls First Resilience Curriculum (RC), resilience-based program, 23 sessions (1 hr wkly), 4 conditions: resilience curriculum (RC), vs. combined curriculum (RC + HC) vs. adolescent physical health	Coping skills, problem-solving, social and emotional competence, co-operation and communication, goals and aspirations, self-efficacy, pro-social peers.[ie]	No int effect on depressive symptoms at immediate post-int. Small, significant negative effect on anxiety symptoms.	PHQ-9 (depressive symptoms) GAD-7 (anxiety symptoms)

				curriculum (HC) cont vs. school-as-usual cont (SC).			
Lock, 2003 [14,29,83-86]	Australia	CRCT	Grade 6 and 9, 9-16 years (M: np), 49.7% male.	FRIENDS, CBT based program, 10 sessions (length: np, wkly) with 2 booster sessions at 1mth and 3mth, and 4 parent sessions, 2 conditions: CBT int vs. monitoring grp cont.	Self-regulation, cognitive competence, coping skills, home support and peer caring relationships.[ie]	No int effect on depressive symptoms at immediate post-int, 12, 24, or 36 mth follow-ups. Significant int effect on anxiety symptoms for Grade 6 only.	CDI (depressive symptoms) SCAS (anxiety symptoms)
Lowry-Webster 2001 [87-94]	Australia	CRCT	Grades 5-7, 10-13 years (M: np), 47.1% male.	FRIENDS, CBT based, anxiety symptoms prevention program, 10 sessions (75 mins wkly), with 2 booster sessions at 1mth and 3mth, and 3 parent sessions, 2 conditions: int vs. no treatment cont.	Coping, self-awareness, self-regulation, cognitive competence, peer caring relationships.[ie]	Significant int effect for anxiety symptoms (SCAS, RCMAS) and depressive symptoms at immediate post-int and 12 mth follow-up. No int effect for internalizing and externalizing problems at immediate post-int or 12 mth follow-up.	CDI (depressive symptoms) SCAS (anxiety symptoms) CBCL-R (internalizing and externalizing problems)
Melnyk, 2009 [95]	United States	CRCT	High school (Grade: np), 14-16 years (M: 15.5 years), 31.6% male.	COPE (Creating Opportunities for Personal Empowerment) Healthy Lifestyles TEEN (Thinking, Emotions, Exercise, and Nutrition) CBT-based program, 15 sessions, (50 mins per session, 2-3 sessions per week, 9 wks), 2	COPE TEEN: self-esteem, cognitive competence, goals and aspirations, co-operation and communication, problem solving, coping, emotional regulation.[i]	Significant int effect for anxiety symptoms at immediate post-int. Non-significant reduction for depressive symptoms for both groups.	BYI-II (depressive symptoms, and anxiety symptoms)

					conditions: Cognitive behavioral skills building (CBSB) curriculum plus 20 mins physical exercise int vs. attention cont (health literacy curriculum only).	Attention cont: None		

Melnyk, 2013 [96,97]	United States	CRCT	High school (Grade: np), 14-16 years (M: 14.74), 48.4% male.	COPE TEEN, CBT based, Cognitive behavioral skills building (CBSB) program 15 sessions (50 mins wkly). 2 conditions: int: CBSB curriculum plus 20 mins physical exercise vs. attention cont (health literacy curriculum only).	COPE TEEN: self-esteem, cognitive competence, goals and aspirations, co-operation and communication, problem solving, coping, emotional regulation.[i]	No significant int effect on depressive symptoms or anxiety symptoms at immediate post-int or 6 mth follow-up.		BYI-II (depressive symptoms, and anxiety symptoms)
Merry, 2004 [98-100]	New Zealand	RCT	Grades 9-10, 13-15 years (M: 14.2), 48.3% male.	Resourceful Adolescent Program (RAP)-Kiwi, CBT based, 11 sessions (1-2 per wk, 60 mins), 2 conditions: int vs. placebo cont (arts and crafts activities).	RAP-Kiwi: self-esteem, self-awareness, self-regulation, cognitive competence, problem-solving, co-operation and communication.[i] Attention cont: co-operation and communication, problem-solving/decision	Significant int effect for BDI-II at immediate post-int. Not sustained at 6, 12, and 18 mth follow-ups.		BDI-II (depressive symptoms)

making, meaningful community participation, peer caring relationships.[ie]

Nash, 2007 [101]	United States	RCT	Grades 6-8, 11-14 years (M: 12.8), 27.5% male.	Empower Youth Program, life skills approach using a Holism Model, 9 sessions (45 mins wkly), 2 conditions: int vs. standard curriculum cont.	Self-awareness, self-control, co-operation and communication, problem-solving/decision making, cognitive competence, coping, self-efficacy, social and emotional competence, goals and aspirations, empathy, pro-social peers.[ie]	No significant int effect for anxiety symptoms or depressive symptoms at post-int, levels of anxiety symptoms and depressive symptoms increased for the int group, however decreased for the cont group.	CDI –S (depressive symptoms) MASC-10 (anxiety symptoms)
Patton, 2006 [52,58,102]	Australia	CRCT	*Gatehouse repeated cross-sectional sample:* Grade 8, 13-14 years (M: np), int: 48% male, cont: 46% male.	'Gatehouse', HPS approach, 3 year multilevel int, capacity building/social climate (40 hrs per yr) and curriculum components (20 lessons ~ 15 hours, Yr 1), 2 conditions: int vs. cont.	Communication and co-operation, self-efficacy, problem-solving/decision making, social and emotional competence/skills, school support/meaningful participation/caring relationships.[ie]	No evidence of effect on depressive symptoms at 24 or 48 mth follow-ups.	SMFQ (depressive symptoms) [DNU]

Perry, 2014 [103]	Australia	CRCT	Grade 9-10, 13-16 years (M: 13.75), 50% male.	Head strong, preventative educational program, 5 modules across 5-8 weeks (75-120 mins per session, 10 hrs total), 2 conditions: int vs. standard PDHPE curriculum cont.	Resilience module, peer-caring relationships, self-efficacy, communication and co-operation, problem solving/decision making, empathy, empowerment, cognitive competence, emotional regulation, community meaningful participation.[ie]	No significant int effect for psychological distress at immediate post or 6 mth follow-up.	DASS-21 (index of overall psychological distress total score)
Petersen, 1997 [104]	United States	RCT	Grades 6-9, 'preadolescence' age and gender proportions np.	Penn State Adolescent Study, coping skills based primary prevention psychoeducational program, 16 sessions across 2 months (40 mins ea), 2 conditions int vs. cont.	Coping, problem solving and decision making, goals and aspirations, communication and co-operation, social and emotional skills/competence, self-regulation, self-esteem, peer caring relationships, home caring relationships.[ie]	Significant int effect for internalizing problems. Externalizing problems increased for cont and decreased for the int.	CDI (depressive symptoms)[DNU] YSR (internalizing and externalizing behaviors)[DNU]
Possel, 2004 [105,106]	Germany	CRCT	Grade 8, M (int): 13.8, M (cont): 14.2 years, 52.2% male.	LISA-T, CBT based, 10 sessions (1.5 hours wkly), 2 conditions: int (LISA-T) vs. standard curriculum	Cognitive competence, co-operation and communication, self-efficacy, social and emotional competence,	No significant int effect for depressive symptoms at 6 mth follow-up.	CES-D (depressive symptoms)

				non-treatment cont (LISA-C).	peer caring relationships.[ie]		
Possel, 2008 [107,108]	Germany	CRCT	Grade 8, M (int): 13.7, M (cont): 13.6, 53.5% male.	LARSandLISA, social competence and CBT based, 10 sessions (1.5 hours wkly), 2 conditions: int vs. standard curriculum non-treatment cont.	Cognitive competence, co-operation and communication, self-efficacy, social and emotional competence, goals and aspirations, peer caring relationships.[ie]	Significant int effect for depressive symptoms at 6 mth follow-up. No evidence of effect on anxiety symptoms or composite externalizing problems score.	SBB-DES (depressive symptoms)
Possel 2013 [109]	United States	CRCT	High school, age range np (M: 15.09), 37.3% male.	LARSandLISA, social competence and CBT based US modified version, 10 sessions (session length: np, wkly), 3 conditions: LARSandLISA int vs. 'NSp' int vs.cont.	LARSandLISA: goals and aspirations, cognitive competence, co-operation and communication, social and emotional competence, peer caring relationships.[ie] NSp: goals and aspirations, empathy, communication and co-operation, peer-caring relationships.[ie]	Significant int effect for depressive symptoms at 4 mth follow-up, not sustained at 8 and 12 mth follow-ups.	CDI (depressive symptoms)
Quayle 2001 [110]	Australia	RCT	Grade 7, 11-12 years (M: np), 100% female.	The Optimism and life Skills Program, adapted from PRP, 8 sessions (80 minutes wkly), 2 conditions: int vs. cont.	Coping, cognitive competence, social and emotional skills, problem solving/decision	No int effect at immediate post-int, however significant int effect at 6 mth follow-up.	CDI (depressive symptoms)

					making, communication and co-operation, emotional regulation.[i]		
Rivet-Duval, 2011 [111-113]	Mauritius	RCT	Grades 7 and 9, 12-16 years, M (int):13.7, M (cont):14.2, 50% male.	RAP-Adolescent (RAP-A), based on cognitive behavioral and interpersonal approaches, 11 sessions (60 mins wkly), 2 conditions: int vs. wait list cont.	Self-esteem, self-regulation, problem-solving, empathy, social and emotional skills, community support.[ie]	Significant int effect at immediate post-int, not sustained at 6 mth follow-up.	RADS-2 (depressive symptoms)
Roberts, 2010 [114,115]	Australia	CRCT	Grade 7, 11-13 years (M: 12.0), 45.6% male.	Aussie Optimism Program (AOP), interpersonal and self-management skills prevention program, 10 optimistic thinking style (OTS) modules and 10 social life skills (SLS) modules (1 hr ea, 20 wks), 2 conditions: int vs. alt health education cont (20 lessons) + 30 min resilience in curriculum presentation to cont teachers.	AOP: Self-awareness, self-regulation, empathy, problem-solving/decision making, cognitive competence, co-operation and communication, coping, community support, peer and home caring relationships.[ie] Cont: regular health education lessons with similar learning outcomes to AOP including content on self-management and interpersonal skills +	Significant effect for internalizing problems at immediate post-int only, not sustained at 6 mth or 18 mth follow-up. No significant int effect for depressive symptoms, anxiety symptoms or externalizing problems at immediate post-int, 6 mth or 18 mth follow-up.	CDI (depressive symptoms) RCMAS (anxiety symptoms) CBCL-PR (internalizing and externalizing problems)

					30 min resilience in curriculum presentation to cont teachers.[ie]		
Rodgers, 2015 [116]	Ireland	RCT	First year of secondary school (Grade: np), 12-13 years (M: 13.2), 30.6% male.	FRIENDS for Life, CBT-based emotional resiliency programme, 10 sessions (60 mins wkly), 2 conditions: int vs. wait-list cont.	Problem-solving/decision making, coping, community support, cognitive competence, self-regulation, self-awareness, self-esteem.[i]	Significant effect for anxiety symptoms at immediate post-int, sustained at 4 mth follow-up.	SCAS (anxiety symptoms)
Rose, 2014 [117]	Australia	CRCT	Grades 6 and 7, 9-14 years (M: 12.22), 56% male.	RAP, based on CBT and interpersonal approaches, RAP: 11 sessions (40-50 mins wkly), PIR/RAP-placebo: 9 sessions (40-50 mins wkly), 3 conditions: RAP–PIR (Peer Interpersonal Relatedness), vs. RAP-Placebo program, vs. assessment-only wait-list cont.	RAP-PIR: self-regulation, self-esteem, empathy, cognitive competence, co-operation and communication, problem-solving, social and emotional skills, co-operation and communication, goals and aspirations, community support, home caring relationships, peer-caring relationships.[ie] RAP-placebo: self-efficacy, self-regulation and discussion of	Significant reduction in depressive symptoms at immediate post-int for RAP-PIR relative to RAP and cont. No significant int effect at 14 mth follow-up.	RADS-2 (depressive symptoms)

					adolescent topics incorporated.[i]		
Ruini, 2006 [118]	Italy	CRCT	Middle school students (Grade: np), M (int): 13.22, M (cont): 13.04, 54.05% males.	Well-being Therapy (WBT), psychological wellbeing program, 4 sessions per condition (2 hrs ea, across 8 wks), 2 conditions: CBT int vs WBT int.	CBT: empathy, social and emotional competence, cognitive competence.[i] WBT: empathy, social and emotional competence, self-efficacy, pro-social peers.[ie]	Significant reduction in anxiety symptoms and depressive symptoms for CBT group at immediate post-int. No int effect on anxiety symptoms and depressive symptoms for WBT group.	KSQ (depressive symptoms) KSQ (anxiety symptoms)
Ruini, 2009 [119]	Italy	CRCT	Grades 9 and 10, age range: np (M: 14.4), 38.8% males.	Well-being Therapy (WBT), psychological wellbeing program, 6 sessions (2 hrs wkly; for both WBT and APC), 2 conditions: WBT int vs. attention placebo cont (APC).	WBT: empathy, social and emotional competence, cognitive competence, self-efficacy, empowerment, goals and aspirations, pro-social peers, peer-caring relationships.[ie] APC: empathy, self-awareness, self-regulation, co-operation and communication, and discussion of school and peer related topics.[ie]	Significant reduction in SQ anxiety symptoms for WBT group at 6 mth follow-up only. No int effect for SQ depressive symptoms.	KSQ (depressive symptoms) KSQ (anxiety symptoms)

| **Sawyer 2010** [120-123] | Australia | CRCT | Grade 8, age range: np (M: 13.1), 47% males. | beyondblue, risk and protective factors model, prevention program, 10 sessions (40-45 mins ea, per yr, 3 years), plus Building Supportive Environments, Building Pathways for Care and Education, and Community Forum components, 2 conditions: int vs. cont. | Problem solving, social and emotional skills, cognitive competence ('resilient thinking styles'), coping skills, school caring relationships, school support, community support.[ie] | No significant int effect for depressive symptoms across the 3 years of the study or at 24 mth follow-up. | CES-D (depressive symptoms) |
| **Shochet , 2009** [99,100] | Australia | CRCT | Grade 8, age range: np (M: np), % male np. | RAP, strength based, resilience building program, 11 sessions (50-60 mins wkly), 3 conditions: RAP vs. RAP-F (RAP + a RAP-P parenting component) vs. cont. | RAP: Self-esteem, self-efficacy, self-regulation, self-awareness, cognitive competence, empathy, social and emotional skills/competence, communication and co-operation, problem solving and decision making, coping, empowerment, community, home and school support.[ie]

RAP-F: RAP + RAP-P parent program and parent workshops.[ie] | Positive int effect for RAP vs cont for depressive symptoms at post-int only, indicated by quadratic growth curve analysis. Not sustained at 12 mth follow-up. | CDI (depressive symptoms)[DNU] |

Shortt 2007 [124-127]	Australia	CRCT	Grades 7-9, M: 12.3-14.5, 43.6% males.	Resilient Families Intervention, resilience approach, prevention program, 10 student sessions (45-50 mins wkly), 8 parent sessions (2 hrs ea), and other parent strategies. 2 conditions: int vs. cont.	Social and emotional competence, co-operation and communication, problem-solving, home caring relationships/support.[ie]	No evidence of effect on depressive symptoms at 13mth post-int.	CES-D (depressive symptoms)
Tak, 2012 [128-130]	Netherlands	CRCT	Grade 8, age range: np (M:13.9), 52.7% males.	Op Volle Kracht (OVK), depressive symptoms prevention program based off CBT-based PRP, 16 lessons (50 mins wkly), and 1 booster session (2 hours) at 6 mth, 2 conditions: int vs. standard curriculum cont.	Cognitive competence, coping, problem solving/decision making, self-esteem, social and emotional competence, communication and co-operation, self-regulation.[i]	No significant int effect for depressive symptoms or anxiety symptoms across the 24 mth follow-up period (latent growth curve modelling).	CDI (depressive symptoms) RCMAS (anxiety symptoms)[DNU]
Tomba, 2010 [131]	Italy	CRCT	Middle school students (Grade: np), age range: np (M: 11.4), 42% males.	Well-being Therapy (WBT), 6 sessions (2 hrs wkly; both WBT and AM), 2 conditions: WBT int vs alt anxiety symptoms management (AM) int.	WBT: empathy, social and emotional competence, cognitive competence, self-efficacy, empowerment, goals and aspirations, pro-social peers, peer-caring relationships.[ie] AM: empathy, cognitive competence,	Significant int effect for SQ anxiety symptoms in favor of the AM group compared to WBT at immediate post-int only. No other significant int effects at post-int or 6 mth follow-up.	SQ (depressive symptoms scale) SQ (anxiety symptoms scale)

self-regulation, emotional regulation, co-operation and communication.[i]

| Trudeau, 2007 [132-135] | United States | CRCT | Grade 6, age range: np (M: 13.4), 48% male. | Iowa Strengthening Families Program (ISFP) for Parents and Youth, family-focussed intervention based on social learning theory, BPS theories of substance use etiology, resilience and life skills research. Six concurrently run parent and child sessions, plus 7 family sessions (60 minute sessions, 19 hrs in total), 2 conditions: ISFP vs cont. | Goals and aspirations, home caring relationships/ meaningful participation/adult high expectations/support, peer caring relationships, pro-social peers, co-operation and communication, problem-solving, coping.[ie] | No effect of int across the time frame studied (Grade 6 through 12, 6 waves of data collection). However linear slope factor indicated a lower rate of increase across time for int vs. cont participants. | CBCL-YSR (internalizing symptoms) |

Note: Superscript DNU was used to show that data was not usable in meta-analysis; superscript "a" reflects protective factors extracted from publications due to inability to obtain program manuals for all trials; superscript "i" reflects internal protective factors, and superscript "e" reflects external protective factors. cont = control; hr = hour; int = intervention; min = minutes; mth = month; np = not provided by authors in the related publications; wkly = weekly.

Table S2: Group Characteristics of Studies Included in Meta-Analyses for the Comparison of Control vs. Intervention

Outcome	IPFs targeted (avg num)	IPFs targeted most (n trials)	Most common therapeutic basis (n trials)	Most common facilitators (n trials)	Avg total intervention length	Curriculum session length (avg length; avg number; most common frequency, n trials)
Depressive symptoms, n=30	5	CogComp (n=25), ProbSolv/DecMak (n=18), ComCo-op (n=16)	CBT (n=22)	C/ETF (n=12) TandSS (n=8) TandETF (n=5)	18 weeks	65 mins; 13 sessions; weekly (n=29)
Child studies, n =8	5	CogComp (n=7), Empathy (n=5), Self-regulation (n=5)	CBT (n=6)	C/ETF (n=3) TandSS (n=2)	15 weeks	68 mins; 13 sessions; weekly (n=8)
Adolescent studies, n=22	5	CogComp (n=18), ComCo-op (n=15), ProbSolv/DecMak (n=14)	CBT (n=16)	C/ETF (n=9) TandSS (n=6)	20 weeks	64 mins; 13 sessions; weekly (n=21)
Anxiety symptoms, n=22	5	CogComp (n=20), CopSkills (n=13), ProbSolv/DecMak (n=13)	CBT (n=16)	TandSS (n=9) TandC/ETF (n=6)	12 weeks	60 mins; 11 sessions; weekly (n=19)
Child studies, n=11	5	CogComp (n=9), CopSkills (n=8), ProbSolv/DecMak (n=7)	CBT (n=9)	TandSS (n=4) TandETF (n=4)	11 weeks	63 mins; 12 sessions; weekly (n=9)
Adolescent studies, n=11	5	CogComp (n=11), CopSkills (n=6), ProbSolv/DecMak (n=5), Emp (n=5), SelfReg (n=5), Self-A (n=5)	CBT (n=7)	TandSS (n=5)	13 weeks	56 mins; 11 sessions; weekly (n=10)
Hyperactivity, n=5 (all child)	5	Emp (n=4), ComCo-op (n=3), SandEComp (n=3), SE (n=3)	Life skills/SandE skills (n=2)	TandSS (n=3) TandETF (n=2)	24 weeks	59 mins; 28 sessions; weekly (n=4)
Conduct problems, n=4	5	ComCo-op (n=3), CogComp (n=2) CopSkills (n=2), Emp (n=2), SE (n=2), SandEComp (n=2)	CBT (n=1), CopSkills (n=1), WBT (n=1), Life	TandSS (n=3) TandETF (n=1)	17 weeks	70 mins; 17 sessions; weekly (n=4)

			skills/SandE skills (n=1)			
Child studies, n=3	5	SE (n=2), Emp, (n=2) ComCo-op (n=2), CopSkills (n=2)	None. WBT (n=1), Life skills/SandE skills (n=1), CopSkills (n=1)	TandSS (n=3)	19 weeks	60 mins; 19 sessions; weekly (n=3)
Adolescent studies, n=1	5	CogComp, Self-efficacy, ComCo-op, GandA, SandEComp	CBT (n=1)	ETF (n=1)	10 weeks	90 mins; 10 sessions; weekly (n=1)
Internalizing problems, n=4	6	CopSkills (n=7), ComCo-op (n=5), Self-Reg (n=5), ProbSolv/DecMak (n=5)	CBT (n=3)	TandETF (n=3)	11 weeks	74 mins; 13 sessions; weekly (n=4)
Child studies, n=1	10	Self-A, SandEComp, SandESkills, ProbSolv/DecMak, SE, SelfReg, EmoReg, Emp, ComCo-Op, CopSkills.	CBT (n=1)	C (n=1)	13 weeks	70 mins; 13 sessions; weekly (n=1)
Adolescent studies, n=3	5	CopSkills (n=3), CogComp (n=2), ComandCo-op (n=2), GandA (n=2), ProbSolv/DecMak (n=2), Self-Reg (n=2)	CBT (n=2)	TandETF (n=3)	10 weeks	75 mins; 12 sessions; weekly (n=3)
Externalizing problems, n=4	7	SelfReg (n=4), CopSkills (n=3), SE (n=3), ProbSolv/DecMak (n=3), SandEComp (n=3), SandESkills (n=3)	CBT (n=3)	TandETF (n=3)	17 weeks	76 mins; 21 sessions; weekly (n=3)
Child studies, n=2	8	Emp (n=2), SelfReg (n=2), SE (n=2), ProbSolv/DecMak (n=2), SandEComp/Skills (n=2)	CBT (n=1), explicitly identified as Res (n=1)	C (n=1), TandETF (n=1)	23 weeks	69 mins; 30 sessions; weekly (n=1)/2-3 sessions weekly (n=1)
Adolescent studies, n=2	6	CogComp (n=2), SelfReg (n=2), CopSkills (n=2)	CBT (n=2)	TandETF (n=2)	12 weeks	83 mins; 12 sessions; weekly (n=2)
General psychological distress, n=6	6	SelfReg (n=4), EmoReg (n=4) Emp (n=4), CogComp (n=4)	CBT (n=3)	TandSS (n=4)	9 weeks	64 mins; 9 sessions; weekly (n=6)

Child studies, n=4	6	SelfReg (n=3), Emp (n=3), CogComp (n=3)	CBT (n=3)	TandSS (n=2)	11 weeks	63 mins; 11 sessions; weekly (n=4)
Adolescent studies, n=2	6	EmoReg(n=2), Resilience modules (n=2)	Positive Psychology (n=1), 'Prevention program' (n=1)	TandSS (n=2)	7 weeks	68 mins; 6 sessions; weekly (n=2)

Note: All values rounded up or down to the nearest whole. Bold text shows significance in meta-analyses. Internal protective factors (IPFs) include cognitive competence (CogComp), problem solving/decision making (ProbSolv/DecMak), communication and co-operation (ComCo-op), self-regulation (SelfReg), emotional regulation (EmoReg), coping skills (CopSkills), empathy (Emp), Social and emotional competence or skills (SandEComp/Skills), self-esteem (SE), self-awareness (Self-A), Goals and aspirations (GandA), and activities/modules with "resilience" explicitly labeled as the key concept targeted (resilience modules). Avg = Average; C = Clinician; CBT = cognitive-behavioral therapy; ETF = Externally trained facilitators; SandE skills = social and emotional skills; SS = school staff; T = teacher; WBT = Well-Being Therapy.

Figure S1. Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies. Note: Risk of bias for each study was assessed independently by two reviewers following the Cochrane Handbook for Systematic Reviews of Interventions guidelines.[66] The following domains were assessed: selection bias (random sequence generation, and allocation concealment); performance bias (blinding of participants and personnel); detection bias (blinding of outcome assessment); attrition bias (incomplete outcome data); and reporting bias (selective reporting). Five other potential sources of bias were assessed (recruitment bias; baseline imbalance; loss of clusters [for cluster randomized controlled trials]; incorrect analysis, and contamination),[66] with "other bias (overall)" based on the highest rating on any one of the five. Disagreements on risk of bias were resolved through consensus or by a third reviewer. Trials that were rated as high for risk of bias on three or more domains were rated as high risk for overall bias.
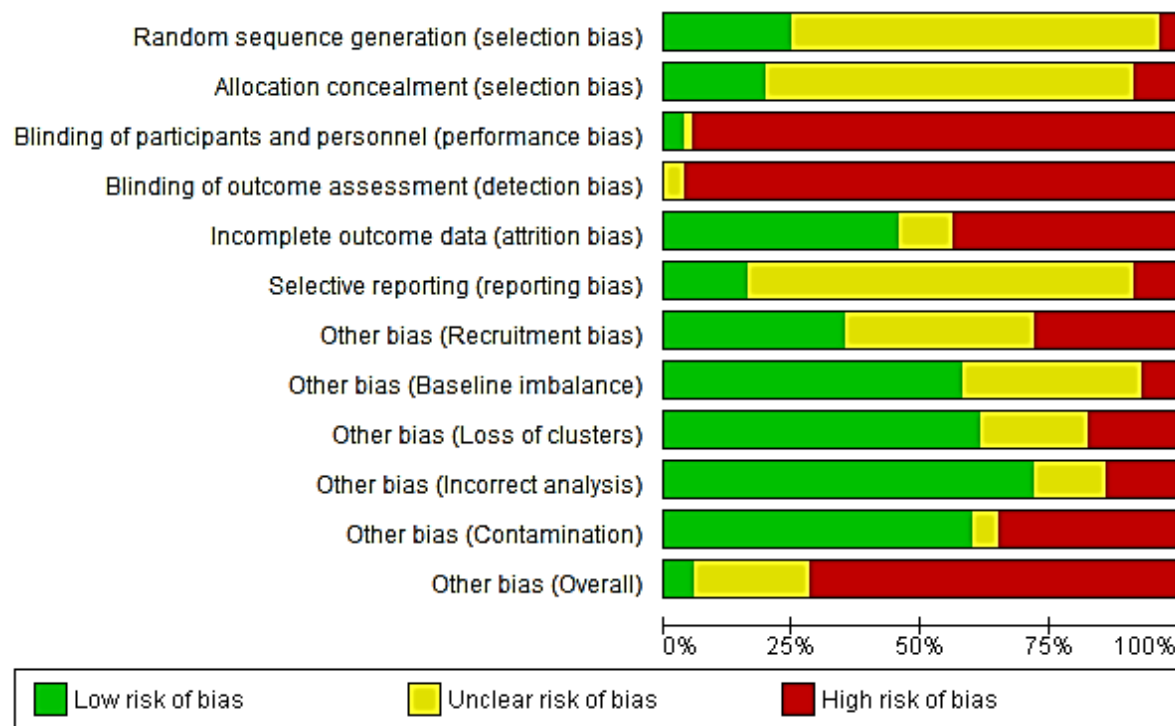
Figure S2. Risk of bias summary: review authors' judgements about each risk of bias item for each included study (+ , ?, and - or green, yellow, red circles represent low, unclear, or high bias ratings, respectively).

References for included trials

1.   Barrett P, Turner C. Prevention of anxiety symptoms in primary school children: preliminary results from a universal school-based trial. *Br J Clin Psychol.* 2001;40:399-410.

2.   Barrett PM, Lowry-Webster HM. *Friends for children group leader manual (2nd ed.).* Brisbane, Australia: Australian Academic Press; 1999.

3.   Barrett PM, lowry-Webster HM. *Friends for Children participant workbook (2nd ed.).* Brisbane, Australia: Australian Academic Press; 1999.

4.   Clarke AM, Bunting B, Barry MM. Evaluating the implementation of a school-based emotional well-being programme: A cluster randomized controlled trial of Zippy's Friends for children in disadvantaged primary schools. *Health Education Research.* 2014;29:786-798.

5.   Clarke AM. *An Evaluation of Zippy's Friends, an Emotional Wellbeing Programme for Children in Primary Schools*. Ireland: Discipline of Health Promotion, National University of Ireland Galway; 2011.

6.   Clarke AM, Barry MM. *An evaluation of the Zippy's Friends emotional wellbeing programme for primary schools in Ireland.* Health Promotion Research Centre: National University of Ireland Galway;2010.

7.   Clarke AM, Barry MM. Implementing mental health promoting schools. In: Simovska V, Mcnamara P, eds. *Schools for Health and Sustainability: Theory, Research and Practice*. Dordrecht, Netherlands: Springer; 2015:313-338.

8.   Clarke AM, O'Sullivan M, Barry MM. Context Matters in Programme Implementation. *Health Education.* 2010;110:273-293.

9.   Clarke AM, Sixsmith J, Barry MM. Evaluating the implementation of an emotional wellbeing programme for primary school children using participatory approaches. *Health Education Journal.* 2015;74:578-593.

10.   Collins S, Woolfson LM, Durkin K. Effects on coping skills and anxiety of a universal school-based mental health intervention delivered in Scottish primary schools. *School Psychology International.* 2014;35:85-100.

11.   Collins S. *Promoting positive mental health and reducing anxiety: lessons for living: think well, do well*. United States: School of Psychological Sciences and Health, University of Strathclyde, United Kingdom; 2011.

12.   Waters F, Collins S, Paterson S. *Lessons for living: Think well, do well.* Scotland, United Kingdom: South Lanarkshire Council Psychological Service; 2012.

13.   Essau CA, Conradt J, Sasagawa S, Ollendick TH. Prevention of anxiety symptoms in children: results from a universal school-based trial. *Behav.* 2012;43:450-464.

14.   Barret PM, Lowry-Webster H, Turner C. *Friends for Children participant workbook.* 2nd ed. Brisbane, Australia: Australian Academic Press; 2000.

15.   Greenberg MT, Kusche CA, Cook ET, Quamma JP. Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology.* 1995;7:117-136.

16.   Holen S, Waaktaar T, Lervag A, Ystgaard M. The effectiveness of a universal school-based programme on coping and mental health: A randomised, controlled study of Zippy's Friends. *Educational Psychology.* 2012;32:657-677.

17.   Holen S, Lervag A, Waaktaar T, Ystgaard M. Exploring the associations between coping patterns for everyday stressors and mental health in young schoolchildren. *Journal of school psychology.* 2012;50:167-193.

18.   Holen S, Waaktaar T, Lervåg A, Ystgaard M. Implementing a universal stress management program for young school children: Are there classroom climate or academic effects? *Scandinavian Journal of Educational Research.* 2013;57:420-444.

19.   Hong L, Yufeng W, Agho K, Jacobs J. Preventing Behavior Problems Among Elementary Schoolchildren: Impact of a Universal School-Based Program in China. *Journal of School Health.* 2011;81:273-280.

20.   Boyle MH, Cunningham CE, Heale J, et al. Helping children adjust--a Tri-Ministry Study: I. Evaluation methodology. *J Child Psychol Psychiatry.* 1999;40:1051-1060.

21.   Hundert J, Boyle MH, Cunningham CE, et al. Helping children adjust--a Tri-Ministry Study: II. Program effects. *J Child Psychol Psychiatry.* 1999;40:1061-1073.

22.   Vaxxine. Classwide Social Skills Program – Program Description. 1999; http://vaxxine.com/socialskill/programdescription.html. Accessed March-September, 2016.

23.   Jones SM, Brown JL, Hoglund WL, Aber JL. A School-Randomized Clinical Trial of an Integrated Social–Emotional Learning and Literacy Intervention: Impacts After 1 School Year. *J Consult Clin Psychol.* 2010;78:829-842.

24.   Jones SM, Brown JL, Aber JL. Two-Year Impacts of a Universal School-Based Social-Emotional and Literacy Intervention: An Experiment in Translational Developmental Research. *Child Devel.* 2011;82:533-554.

25.   Jones SM, Brown JL, Aber JL. Classroom settings as targets of intervention and research. In: Shinn M, Yoshikawa H, eds. *Changing schools and community organizations to foster positive youth development*. New York: Oxford University Press; 2008:58-77.

26.   Malti T, Ribeaud D, Eisner MP. The effectiveness of two universal preventive interventions in reducing children's externalizing behavior: a cluster randomized controlled trial. *J Clin Child Adolesc Psychol.* 2011;40:677-692.

27.   Miller LD, Laye-Gindhu A, Bennett JL, et al. An Effectiveness Study of a Culturally Enriched School-Based CBT Anxiety Prevention Program. *J Clin Child Adolesc Psychol.* 2011;40:618-629.

28.   Barret P. *Friends for life: group leaders manual for children.* Bowen Hills: Australian Academic Press; 2004.

29.   Barrett PM, Lowry-Webster H, Turner C. *Friends for Children group leader manual.* 2nd ed. Brisbane, Australia: Australian Academic Press; 2000.

30.   Miller LD, Laye-Gindhu A, Liu Y, March JS, Thordarson DS, Garland EJ. Evaluation of a preventive intervention for child anxiety in two randomized attention-control school trials. *Behaviour Research and Therapy.* 2011;49:315-323.

31.   Myles-Pallister JD, Hassan S, Rooney RM, Kane RT. The efficacy of the enhanced Aussie Optimism Positive Thinking Skills Program in improving social and emotional learning in middle childhood. *Front Psychol.* 2014;5:909.

32.   Kennedy P, Rooney RM, Kane RT, Hassan S, Nesa M. The enhanced Aussie Optimism Positive Thinking Skills Program: The relationship between internalizing symptoms and family functioning in children aged 9–11 years old. *Front Psychol.* 2015;6:504.

33.   Nesa M, Rooney R, Roberts C, Pike L. *Aussie Optimism: Positive thinking Program, Student booklet.* Perth, WA: The Curtin University of Technology; 2004.

34.   Nesa N, Rooney R. *The Positive Thinking Project Parent Resource.* Perth, WA: The Curtin University of Technology; 2004.

35.   Rooney R, Nesa M, Ho M. *Aussie Optimism: Positive Thinking Skills Teacher Resource.* Perth, WA: The Curtin University of Technology; 2009.

36.   Parker AE, Kupersmidt JB, Mathis ET, Scull TM, Sims C. The impact of mindfulness education on elementary school students: evaluation of the Master Mind program. *Advances in School Mental Health Promotion.* 2014;7:184-204.

37.   Pattison C, Lynd-Stevenson RM. The prevention of depressive symptoms in children: The immediate and long-term outcomes of a school-based program. *Behaviour Change.* 2001;18:92-102.

38.   Rooney R, Roberts C, Kane R, et al. The Prevention of Depression in 8- to 9-Year-Old Children: A Pilot Study. *Journal of Psychologists and Counsellors in Schools.* 2006;16:76-90.

39.   Rooney R, Rudge L, Snowball L, et al. *The positive thinking program: Prevention manual.* Perth, Australia: Curtin University of Technology; 2004.

40.   Rooney R, Hassan S, Kane R, Roberts CM, Nesa M. Reducing depression in 9-10 year old children in low SES schools: a longitudinal universal randomized controlled trial. *Behav Res Ther.* 2013;51:845-854.

41.   Johnstone J, Rooney RM, Hassan S, Kane RT. Prevention of depression and anxiety symptoms in adolescents: 42 and 54 months follow-up of the Aussie Optimism Program-Positive Thinking Skills. *Front Psychol.* 2014;5:364.

42.   Rooney RM, Morrison D, Hassan S, Kane R, Roberts C, Mancini V. Prevention of internalizing disorders in 9–10 year old children: efficacy of the Aussie Optimism Positive Thinking Skills Program at 30-month follow-up. *Front Psychol.* 2013;4:988.

43.   Schonert-Reichl KA, Oberie E, Stewart Lawlor M, et al. Enhancing Cognitive and Social-Emotional Development Through a Simple-to-Administer Mindfulness-Based School Program for Elementary School Children: A Randomized Controlled Trial. *Devel Psychol.* 2015;51:52-66.

44.   Maloney JE, Lawlor MS, Schonert-Reichl KA, Whitehead J. A Mindfulness-Based Social and Emotional Learning Curriculum for School-Aged Children: The MindUP Program. In: Schonert-Reichl AK, Roeser WR, eds. *Handbook of Mindfulness in Education: Integrating Theory and Research into Practice*. New York: Springer New York; 2016:313-334.

45.   Stallard P, Taylor G, Anderson R, et al. School-based intervention to reduce anxiety in children: study protocol for a randomized controlled trial (PACES). *Trials [Electronic Resource].* 2012;13:227.

46.   Stallard P, Skryabina E, Taylor G, et al. Classroom-based cognitive behaviour therapy (FRIENDS): a cluster randomised controlled trial to Prevent Anxiety in Children through Education in Schools (PACES). *Lancet Psychiatry.* 2014;1:185–192.

47.   Araya R, Montgomery AA, Fritsch R, et al. School-based intervention to improve the mental health of low-income, secondary school students in Santiago, Chile (YPSA): study protocol for a randomized controlled trial. *Trials.* 2011;12(1):49.

48.   Araya R, Fritsch R, Spears M, et al. School intervention to improve mental health of students in Santiago, Chile: A randomized clinical trial. *JAMA Pediatr.* 2013;167:1004-1010.

49.   Barnes VA, Johnson MH, Williams RB, Williams VP. Impact of Williams LifeSkills training on anger, anxiety, and ambulatory blood pressure in adolescents. *Translational Behavioral Medicine.* 2012;2:401-410.

50.   Williams RB, Williams VP. Facilitator's manual for lifeskills. Durham: Williams lifeskills, Inc; 2000.

51.   Bond L, Glover S, Godfrey C, Butler H, Patton GC. Building capacity for system-level change in schools: Lessons from the Gatehouse Project. *Health Educ Behav.* 2001;28:368-383.

52.   Patton GC, Glover S, Bond L, et al. The Gatehouse Project: A systematic approach to mental health promotion in secondary schools. *Aust N Z J Psychiatry.* 2000;34:586-593.

53. Bond L, Carlin JB, Thomas L, Rubin K, Patton G. Does bullying cause emotional problems? A prospective study of young teenagers. *BMJ.* 2001;323:480-484.

54. Bond L, Toumbourou JW, Thomas L, Catalano RF, Patton G. Individual, family, school, and community risk and protective factors for depressive symptoms in adolescents: A comparison of risk profiles for substance use and depressive symptoms. *Prevention Science.* 2005;6:73-88.

55. Butler H, Bond L, Glover S, Patton G. The Gatehouse Project: mental health promotion incorporating school organisational change and health education. In: Rowling L, Martin G, Walker L, eds. *Mental health promotion and young people: concepts and practice.* Roseville: McGraw Hill; 2001:128-141.

56. Glover S, Burns J, Butler H, Patton G. Social environments and the emotional wellbeing of young people. *Family Matters.* 1998;49:11-16.

57. Bond L, Butler H, Thomas L, et al. Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *Journal of Adolescent Health.* 2007;40(4):357.e359–357.e318.

58. Patton GC, Bond L, Butler H, Glover S. Changing schools. changing health? The Design ad implementation of the Gatehouse Project. *Journal of Adolescent Health.* 2003;33(4):231-239.

59. Bond L, Patton G, Glover S. The Gatehouse Project: can a multilevel school intervention affect emotional wellbeing and health risk behaviours? *J Epidemiol Community Health.* 2004;58:997-1003.

60. Burckhardt R, Manicavasagar V, Batterham PJ, Miller LM, Talbot E, Lum A. A web-based adolescent positive psychology program in schools: randomized controlled trial. *Journal of medical Internet research.* 2015;17(7):e187.

61. Calear AL, Christensen H, Mackinnon A, Griffiths KM, O'Kearney R. The YouthMood Project: a cluster randomized controlled trial of an online cognitive behavioral program with adolescents. *J Consult Clin Psychol.* 2009;77(6):1021-1032.

62. Calear AL, Christensen H, Mackinnon A, Griffiths KM. Adherence to the MoodGYM program: Outcomes and predictors for an adolescent school-based population. *Journal of Affective Disorders.* 2013;147(1–3):338-344.

63. Cardemil EV, Reivich KJ, Seligman MEP. The prevention of depressive symptoms in low-income minority middle school students. *Prevention and Treatment.* 2002;5:8.

64. Cardemil EV. *The prevention of depressive symptoms in inner-city, minority middle school students.* Ann Arbor: University of Pennsylvania; 2000.

65. Cardemil EV, Reivich KJ, Beevers CG, Seligman ME, James J. The prevention of depressive symptoms in low-income, minority children: two-year follow-up. *Behaviour research and therapy.* 2007;45:313-327.

66. Chaplin TM, Gillham JE, Reivich K, et al. Depression prevention for early adolescent girls: A pilot study of all girls versus co-ed groups. *The Journal of Early Adolescence.* 2006;26(1):110-126.

67. Fitzpatrick C, Power M, Brosnan E, Cleary D, Conlon A, Guerin S. Working things out through SPHE-A journey from community to clinic and back. *Advances in School Mental Health Promotion.* 2009;2(3):38-45.

68. Power M, Cleary D. *Working Things out Through SPHE. Teachers Resource Book.* Dublin, Ireland: Parents Plus; 2008.

69. Fitzpatrick C, Conlon A, Cleary D, Power M, King F, Guerin S. Enhancing the mental health promotion component of a health and personal development programme in Irish schools. *Advances in School Mental Health Promotion.* 2013;6(2):122-138.

70. Fitzpatrick C, Brosnan E, Sharry J. 'Working Things Out': A therapeutic resource for professionals working with young people. In: Essau C, ed. *Treatment for adolescent depression: Theory and practice.* Oxford: Oxford University Press; 2009:283-310.

71. Power M, Cleary D. *Working things our through SPHE teacher's resource pack.* Dublin, Ireland: Social, Personal and Health Education Support Service; 2007.

72. Cutuli J, Gillham JE, Chaplin TM, et al. Preventing adolescents' externalizing and internalizing symptoms: Effects of the Penn Resiliency Program. *The International Journal of Emotional Education.* 2013;5(2):67-79.

73. Gillham J, Jaycox L, Reivich K, Seligman M, Silver T. *The Penn Resiliency Program: Unpublished manual.* Philadelphia: University of Pennsylvania; 1990.

74. Gillham JE, Brunwasser SM, Freres DR. Preventing Depression in Early Adolescence: The Penn Resiliency Program. In: Abela JRZ, Hankin BL, eds. *Handbook of Depression in Children and Adolescents.* New York: Guilford Press; 2008:309-332.

75. Gillham JE, Reivich KJ, Freres DR, et al. School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn Resiliency Program. *J Consult Clin Psychol.* 2007;75:9-19.

76. Horowitz JL, Garber J, Ciesla JA, Young JF, Mufson L. Prevention of depressive symptoms in adolescents: A randomized trial of cognitive-behavioral and interpersonal prevention programs. *J Consult Clin Psychol.* 2007;75:693-706.

77. Horowitz JL. Preventing depression in adolescents: A prospective trial of two universal prevention programs. *Dissertation Abstracts International.* 2008;68:8399.

78. Kindt KCM, Kleinjan M, Janssens JMAM, Scholte RHJ. Evaluation of a school-based depression prevention program among adolescents from low-income areas: A randomized controlled effectiveness trial. *International Journal of Environmental Research and Public Health.* 2014;11:5273-5293.

79. Kindt K, Scholte R, Schuck K, Kleinjan M, Janssens J. Examining Reciprocal Associations Between a Negative Cognitive Style and Depressive Symptoms in Early Adolescence. *International Journal of Cognitive Therapy.* 2015;8(1):78-94.

80. Kindt KC, Kleinjan M, Janssens JM, Scholte RH. Cross-Lagged Associations Between Adolescents' Depressive Symptoms and Negative Cognitive Style: The Role of Negative Life Events. *Journal of youth and adolescence.* 2015;44(11):2141-2153.

81. Kindt KCM, van Zundert R, Engels RCME. Evaluation of a Dutch school-based depression prevention program for youths in highrisk neighborhoods: study protocol of a two-armed randomized controlled trial. *BMC Public Health.* 2012;12:212.

82. Leventhal KS, Gillham J, DeMaria L, Andrew G, Peabody J, Leventhal S. Building psychosocial assets and wellbeing among adolescent girls: A randomized controlled trial. *Journal of Adolescence.* 2015;45:284-295.

83. Lock S, Barrett PM. A longitudinal study of developmental differences in universal preventive intervention for child anxiety. *Behaviour Change.* 2003;20(04):183-199.

84. Barrett PM, Farrell LJ, Ollendick TH, Dadds M. Long-term outcomes of an Australian universal prevention trial of anxiety and depression symptoms in children and youth: an evaluation of the friends program. *J Clin Child Adolesc Psychol.* 2006;35:403-411.

85. Barrett PM, Lock S, Farrell LJ. Developmental differences in universal preventive intervention for child anxiety. *Clin Child Psychol Psychiatry.* 2005;10:539-555.

86. Barrett PM, Pahl KM. School-Based Intervention: Examining a Universal Approach to Anxiety Management. *Journal of Psychologists and Counsellors in Schools.* 2006;16:55-75.

87. Lowry-Webster HM, Barrett PM, Dadds MR. A universal prevention trial of anxiety and depressive symptomatology in childhood: preliminary data from an Australian study. *Behaviour Change.* 2001;18(1):36-50.

88. Lowry-Webster HM, Barrett PM, Lock S. A universal prevention trial of anxiety symptomology during childhood: Results at 1-year follow-up. *Behaviour Change.* 2003;20(01):25-43.

89. Barrett PM, Lowry-Webster HM. *FRIENDS program for children: Group leader manual.* Brisbane, Australia: Australian Academic Press; 1998.

90. Barrett PM, Lowry-Webster HM. *FRIENDS program for children: Participant workbook.* Brisbane, Australia: Australian Academic Press; 1998.

91. Barrett PM, Lowry-Webster HM. *FRIENDS program for youth: Group leader manual.* Brisbane, Australia: Australian Academic Press; 1998.

92.   Barrett PM, Lowry-Webster HM. *FRIENDS program for youth: Participant workbook.* Brisbane, Australia: Australian Academic Press; 1998.

93.   Barrett PM, Lowry-Webster HM, Holmes JM. *FRIENDS program for children: Parents supplement.* Brisbane, Australia: Australian Academic Press; 1998.

94.   Barrett PM, Lowry-Webster HM, Holmes JM. *FRIENDS program for youth: Parents supplement.* Brisbane, Australia: Australian Academic Press; 1998.

95.   Melnyk BM, Jacobson D, Kelly S, O'Haver J, Small L, Mays MZ. Improving the mental health, healthy lifestyle choices, and physical health of Hispanic adolescents: a randomized controlled pilot study. *Journal of school health.* 2009;79(12):575-584.

96.   Melnyk BM, Jacobson D, Kelly S, et al. Promoting healthy lifestyles in high school adolescents: a randomized controlled trial. *Am J Prev Med.* 2013;45:407-415.

97.   Melnyk BM, Kelly S, Jacobson D, et al. The COPE healthy lifestyles TEEN randomized controlled trial with culturally diverse high school adolescents: baseline characteristics and methods. *Contemp Clin Trials.* 2013;36(1):41-53.

98.   Merry S, McDowell H, Wild CJ, Bir J, Cunliffe R. A randomized placebo-controlled trial of a school-based depression prevention program. *J Am Acad Child Adolesc Psychiatry.* 2004;43(5):538-547.

99.   Shochet IM, Ham D. Universal school-based approaches to preventing adolescent depression: Past findings and future directions of the Resourceful Adolescent Program. *International Journal of Mental Health Promotion.* 2004;6(3):17-25.

100.   Shochet IM, Hoge R. Resourceful adolescent program: A prevention and early intervention program for teenage depression. *Treatments for adolescent depression: Theory and practice*. New York: Oxford University Press; 2009:123-157.

101.   Nash KA. Implementation and evaluation of the Empower Youth Program. *Journal of Holistic Nursing.* 2007;25(1):26-36.

102.   Patton GC, Bond L, Carlin JB, et al. Promoting social inclusion in schools: a group-randomised trial of effects on student health risk behaviour and well-being. *American Journal of Public Health.* 2006;96(9):1582-1587.

103.   Perry Y, Petrie K, Buckley H, et al. Effects of a classroom-based educational resource on adolescent mental health literacy: A cluster randomised controlled trial. *Journal of Adolescence.* 2014;37:1143-1151.

104.   Petersen AC, Leffert N, Graham B, Alwin J, Ding S. Promoting mental health during the transition into adolescence. In: Schulenberg J, Maggs JL, Hurrelmann K, eds. *Health risks and developmental transitions during adolescence*. Cambridge: Cambridge University Press; 1997.

105. Possel P, Horn AB, Groen G, Hautzinger M. School-based prevention of depressive symptoms in adolescents: A 6-month follow-up. *J Am Acad Child Adolesc Psychiatry.* 2004;43:1003-1010.

106. Possel P, Baldus C, Horn AB, Groen G, Hautzinger M. Influence of general self-efficacy on the effects of a school-based universal primary prevention program of depressive symptoms in adolescents: a randomized and controlled follow-up study. *J Child Psychol Psychiatry.* 2005;46:982-994.

107. Possel P, Adelson JL, Hautzinger M. A randomized trial to evaluate the course of effects of a program to prevent adolescent depressive symptoms over 12 months. *Behav Res Ther.* 2011;49:838-851.

108. Pössel P, Seemann S, Hautzinger M. Impact of comorbidity in prevention of adolescent depressive symptoms. *J Counsel Psychol.* 2008;55:106-117.

109. Pössel P, Martin NC, Garber J, Hautzinger M. A randomized controlled trial of a cognitive-behavioral program for the prevention of depression in adolescents compared with nonspecific and no-intervention control conditions. *J Couns Psychol.* 2013;60:432-438.

110. Quayle D, Dziurawiec S, Roberts C, Kane R, Ebsworthy G. The effect of an optimism and lifeskills program on depressive symptoms in preadolescence. *Behaviour Change.* 2001;18:194-203.

111. Rivet-Duval E, Heriot S, Hunt C. Preventing Adolescent Depression in Mauritius: A Universal School-Based Program. *Child Adolesc Mental Health.* 2011;16(2):86-91.

112. Shochet IM, Holland D, Whitefield K. *Resourceful Adolescent Program: Group leaders manual.* Brisbane: Griffith University; 1997.

113. Shochet IM, Holland D, Whitefield K. *Resourceful Adolescent Program: Participant workbook.* Brisbane: Griffith University; 1997.

114. Roberts CM, Kane R, Bishop B, Cross D, Fenton J, Hart B. The prevention of anxiety and depression in children from disadvantaged schools. *Behav Res Ther.* 2010;48:68-73.

115. Roberts C, Ballantyne F, van der Klift P. *Aussie optimism. Social life skills. Teacher resource.* Perth, Australia: Curtin University of Technology; 2003.

116. Rodgers A, Dunsmuir S. A controlled evaluation of the 'FRIENDS for life' emotional resiliency programme on overall anxiety levels, anxiety subtype levels and school adjustment. *Child and Adolescent Mental Health.* 2015;20(1):13-19.

117. Rose K, Hawes DJ, Hunt CJ. Randomized controlled trial of a friendship skills intervention on adolescent depressive symptoms. *Journal of Consulting and Clinical Psychology.* 2014;82:510-520.

118.   Ruini C, Belaise C, Brombin C, Caffo E, Fava GA. Well-being therapy in school settings: a pilot study. *Psychother Psychosom.* 2006;75(6):331-336.

119.   Ruini C, Ottolini F, Tomba E, et al. School intervention for promoting psychological well-being in adolescence. *J Behav Ther Exp Psychiatry.* 2009;40:522-532.

120.   Firth N, Butler H, Drew S, et al. Implementing multi-level programmes and approaches that address student well-being and connectedness: Factoring in the needs of the schools. *Advances in School Mental Health Promotion.* 2008;1(4):14-24.

121.   Sawyer MG, Pfeiffer S, Spence SH, et al. School-based prevention of depression: a randomised controlled study of the beyondblue schools research initiative. *Journal of Child Psychology and Psychiatry and Allied Disciplines.* 2010;51(2):199-209.

122.   Sawyer MG, Harchak TF, Spence SH, et al. School-based prevention of depression: a 2-year follow-up of a randomized controlled trial of the beyondblue schools research initiative. *Journal of Adolescent Health.* 2010;47(3):297-304.

123.   beyondblue. beyondblue Secondary Schools Research Initiative (bbSSRI). *Research Projects* 2007-2009; https://www.beyondblue.org.au/. Accessed August 10, 2016.

124.   Shortt AL, Hutchinson DM, Chapman R, Toumbourou JW. Family, school, peer and individual influences on early adolescent alcohol use: first-year impact of the Resilient Families programme. *Drug and Alcohol Review.* 2007;26(6):625-634.

125.   Buttigieg JP, Shortt AL, Slaviero TM, Hutchinson D, Kremer P, Toumbourou JW. A longitudinal evaluation of the Resilient Families randomized trial to prevent early adolescent depressive symptoms. *Journal of Adolescence.* 2015;44:204-213.

126.   Shortt A, Toumbourou J, Chapman R, Power E. The Resilient Families program: Promoting health and well-being in adolescents and their parents during the transition to secondary school. *Youth Studies Australia.* 2006;25(1):33-40.

127.   Shortt A, Toumbourou JW. The Resilient Families program: Helping to prepare adolescents for success in school and life. *Youth Studies Australia.* 2006;25(1):57-58.

128.   Tak YR, Van Zundert RM, Kuijpers RC, Van Vlokhoven BS, Rensink HF, Engels RC. A randomized controlled trial testing the effectiveness of a universal school-based depression prevention program 'Op Volle Kracht' in the Netherlands. *BMC public health.* 2012;12:21.

129.   Tak YR, Kleinjan M, Lichtwarck-Aschoff A, Engels RC. Secondary outcomes of a school-based universal resiliency training for adolescents: a cluster randomized controlled trial. *BMC Public Health.* 2014;14:1171.

130.   Tak YR, Lichtwarck-Aschoff A, Gillham JE, Van Zundert RM, Engels RC. Universal School-Based Depression Prevention 'Op Volle Kracht': a Longitudinal Cluster Randomized Controlled Trial. *J Abnorm Child Psychol.* 2016;44(5):949-961.

131. Tomba E, Belaise C, Ottolini F, et al. Differential effects of well-being promoting and anxiety-management strategies in a non-clinical school setting. *Journal of anxiety disorders.* 2010;24(3):326-333.

132. Trudeau L, Spoth R, Randall GK, Mason WA, Shin C. Internalizing symptoms: effects of a preventive intervention on developmental pathways from early adolescence to young adulthood. *J Youth Adolesc.* 2012;41:788-801.

133. Trudeau L, Spoth R, Randall GK, Azevedo K. Longitudinal effects of a universal family-focused intervention on growth patterns of adolescent internalizing symptoms and polysubstance use: Gender comparisons. *J Youth Adolesc.* 2007;36:725-740.

134. Molgaard V, Spoth R. The Strengthening Families Program for Young Adolescents: Overview and Outcomes. *Residential Treatment for Children and Youth.* 2001;18(3):15-29.

135. Molgaard V, Spoth R. Strengthening Families Program for young adolescents: Overview and outcomes. In: Pfeiffer SI, Reddy LA, eds. *Innovative mental health programs for children: programs that work.* Binghamton, NY: The Haworth Press, Inc; 2001:15-29.

CHAPTER 4 ADDITIONAL APPENDICES

The following supplementary appendices are additional components of the Chapter 4 Review, which were not included in the published paper or published supplementary material. These include classification of protective factors used during screening of studies for eligibility, as well as forest plots, and funnel plots for the seven primary mental health problem outcomes: depressive symptoms; anxiety symptoms; hyperactivity; conduct problems; internalising problems; externalising problems, and; general psychological distress.

SUPPLEMENTARY APPENDIX A

Supplementary Table 1. Classification of protective factors [1-20] utilised to determine study eligibility during screening stages of the current review.

Protective factor	Similar terms
Internal protective factor	For study selection (included trials assessed interventions that addressed ≥ three internal resilience protective factors)
Cognitive competence	Cognitive ability, cognitive or executive function, cognitive flexibility, cognitive restructuring/cognitive restructuring skills, thinking styles/accuracy of beliefs, optimistic thinking style, critical thinking
Cooperation and communication	Co-operative behaviour, communication skill, conflict resolution skills, ability to engage with others, interpersonal competence, negotiation, assertiveness
Coping	Active coping, coping skills, adaptability, coping orientation, realistic control
Emotional regulation	Emotional competence, emotional functioning, emotional intelligence
Empathy	Ability to discern feelings of others, learning to identify and express feelings, perspective-taking
Empowerment	Autonomy, leadership skills
Goals and aspirations	Goal direction, ability to plan, planning for the future
Moral competence	Ethical dilemma skills, moral development

Protective factor	Similar terms
Problem solving/decision making	Effective problem-solving strategies, differentiation solvable from non-solvable problems
Spirituality	Belief of something larger or being part of something larger (team, community, ritual or tradition)/ beliefs that life has meaning, religiosity, faith, cultural traditions, hope, optimism, sense of purpose/purpose in life.
Self-control	Perceived control/perceptions of control, self-management skills
Self-efficacy	Positive self-concept, positive self-image/self-perception, internal locus of control, perceptions of control, personal identity, sense of identity, self-mastery, self-acceptance.
Self-esteem	Self-confidence, positive affect, personal affect, positive self-image/self-worth
Self-regulation	Behavioural competence/regulation/adjustment, impulse control, self-regulatory capacities,
Self-awareness	Reflective thinking on self, self-talk
Social and emotional competence	Interpersonal relations/competence, personal interaction, emotional wellbeing, emotional learning, emotion-focussed reasoning, emotional or social adaptation
Social and emotional skills	Life skills, social skills, social wellbeing, social learning, adaptive social-problem-solving skills, adaptive skill-building, social perception
External protective factor	*For data extraction (external protective factors not included as intervention inclusion criteria)*
Community adult high expectations	Sense of positive regard from adults or professionals outside home and school environments
Community caring relationships	Community support
Community meaningful participation	Community activities, community service, prosocial organisation, extracurricular activities, sense of belonging, social connectedness
Community support	Social support, social capital, support networks

Protective factor	Similar terms
Home adult high expectations	Authoritative parent, parental monitoring, competent caregiving
Home caring relationships	Family relationships, parent-child relations, bonding, family cohesion, family adaptability, family connection/cohesion, adult mentor, responsive/nurturing caregivers or support figures, parental responsiveness, stable adult relationship, secure attachment relationships, family attachments
Home meaningful participation	Meaningful participation, sense of belonging
Home support	Parent involvement, parental support, supportive adult, responsive/nurturing caregivers or support figures
Peer caring relationships	Social environment, social participation, peer group, social support, friends, friend –support social responsiveness, social sensitivity, group cohesion, friendship building and maintenance.
Pro-social peers	Pro-social bonding, positive/supportive peer interactions, positive friend, positive social orientation
School adult high expectations	Sense of positive regard from adults within the school environment
School caring relationships	Positive teacher-student relationships
School meaningful participation	School engagement, school connection/connectedness, school environment, orientation towards school, sense of belonging, valued participation
School support	Safe/secure school environment
Not included as protective factors	Demographic characteristics (e.g. age, gender, socio-economic status), personality traits, easy temperament, environmental resilience, safe neighbourhood, and affordable housing.

SUPPLEMENTARY APPENDIX B

Forest plots relating to meta-analysis results for the comparison of a resilience-focussed intervention versus control

Figure S1.1. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: depressive symptoms

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
1.1.1 Child studies								
Barrett 2001	10.01	9.18	208	7.4	6.19	43	2.5%	0.30 [-0.03, 0.63]
Essau 2012	5.05	3.5	110	7.79	4.9	109	3.2%	-0.64 [-0.91, -0.37]
Jones 2010/2011	0.33	0.28	265	0.31	0.27	251	4.8%	0.07 [-0.10, 0.25]
Myles-Pallister 2014	5.08	5.81	228	6.69	6.92	124	4.0%	-0.26 [-0.48, -0.04]
Pattison 2001	5.26	4.06	23	8.13	6.94	29	1.1%	-0.48 [-1.04, 0.07]
Rooney 2006	10.68	7.6	38	11.18	8.43	29	1.4%	-0.06 [-0.55, 0.42]
Rooney 2013	6.98	7.18	87	5.86	5.76	72	2.7%	0.17 [-0.14, 0.48]
Stallard 2012	3.24	2.52	550	3.47	2.72	233	5.2%	-0.09 [-0.24, 0.06]
Subtotal (95% CI)			**1509**			**890**	**24.9%**	**-0.11 [-0.31, 0.09]**
Heterogeneity: Tau² = 0.06; Chi² = 31.39, df = 7 (P < 0.0001); I² = 78%								
Test for overall effect: Z = 1.10 (P = 0.27)								
1.1.2 Adolescent studies								
Araya 2013	9.5	9.8	343	10.1	10.3	364	5.3%	-0.06 [-0.21, 0.09]
Burckhardt 2015	6.94	8.7	95	6.91	7.77	69	2.7%	0.00 [-0.31, 0.31]
Calaer 2009	10.56	10.01	234	11.92	11.36	314	4.8%	-0.13 [-0.30, 0.04]
Chaplin 2006	5.51	6.9	65	8.55	7.69	38	1.9%	-0.42 [-0.82, -0.01]
Gillham 2007	6.4	7.2	199	6.3	6.67	104	3.7%	0.01 [-0.22, 0.25]
Horowitz 2007	8.23	7.68	112	10.08	8.55	169	3.6%	-0.22 [-0.46, 0.01]
Kindt 2012	10	9.14	458	9.22	7.74	468	5.6%	0.09 [-0.04, 0.22]
Leventhal 2015	6.11	4.44	902	6.26	4.44	410	5.9%	-0.03 [-0.15, 0.08]
Lock 2003	6.94	6.45	113	8.38	6.96	121	3.4%	-0.21 [-0.47, 0.04]
Lowry-Webster 2001	9.99	8.51	146	13.02	10.02	57	2.7%	-0.34 [-0.64, -0.03]
Melnyk 2009	50.64	9.87	10	52.17	15.33	6	0.4%	-0.12 [-1.13, 0.89]
Melnyk 2013	47.03	4.82	135	46.55	4.83	161	3.8%	0.10 [-0.13, 0.33]
Nash 2007	1.73	0.36	21	1.78	0.27	19	0.9%	-0.15 [-0.77, 0.47]
Possel 2004	13.16	8.96	102	16.93	8.93	78	2.9%	-0.42 [-0.72, -0.12]
Possel 2008	0.68	0.62	96	0.73	0.6	88	3.0%	-0.08 [-0.37, 0.21]
Possel 2013	8.54	8.36	260	8.38	8.5	136	4.2%	0.02 [-0.19, 0.23]
Quayle 2001	4.35	5.42	20	10.99	10.71	13	0.7%	-0.82 [-1.55, -0.09]
Rivet-Duval 2011	49.74	9.19	80	49.98	11.07	80	2.7%	-0.02 [-0.33, 0.29]
Rose 2014	51.35	16.31	52	50.91	15.31	63	2.2%	0.03 [-0.34, 0.39]
Sawyer 2010	13.8	11.2	742	13.8	11	732	6.1%	0.00 [-0.10, 0.10]
Shortt 2007	15.4	12.4	374	14.4	12.3	386	5.4%	0.08 [-0.06, 0.22]
Tak 2012	8.4	7.6	96	8	7.3	117	3.2%	0.05 [-0.22, 0.32]
Subtotal (95% CI)			**4655**			**3993**	**75.1%**	**-0.05 [-0.11, 0.01]**
Heterogeneity: Tau² = 0.01; Chi² = 32.80, df = 21 (P = 0.05); I² = 36%								
Test for overall effect: Z = 1.74 (P = 0.08)								
Total (95% CI)			**6164**			**4883**	**100.0%**	**-0.08 [-0.14, -0.01]**
Heterogeneity: Tau² = 0.02; Chi² = 65.71, df = 29 (P = 0.0001); I² = 56%								
Test for overall effect: Z = 2.29 (P = 0.02)								
Test for subgroup differences: Chi² = 0.30, df = 1 (P = 0.59), I² = 0%								

Favours [experimental]   Favours [control]

Figure S1.2. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: anxiety symptoms

Figure S1.3. Forest plot of comparison: intervention versus control; child studies; outcome: hyperactivity

Figure S1.4. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: conduct problems
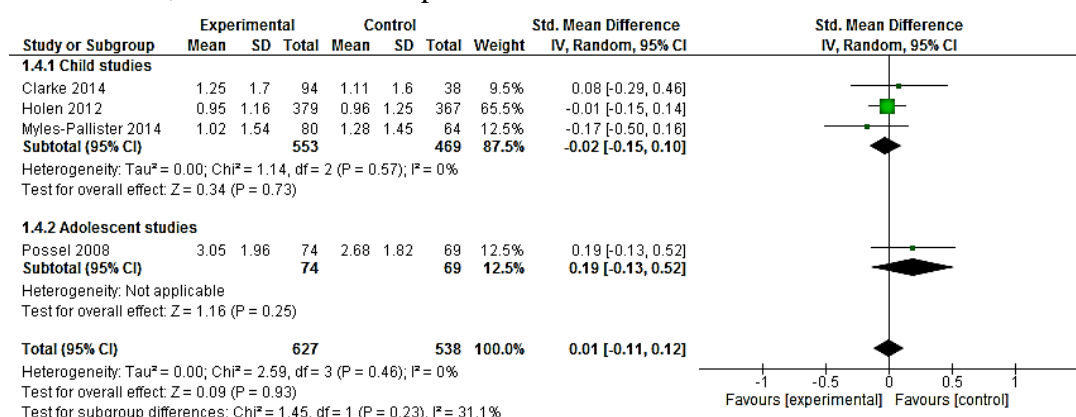
Figure S1.5. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: internalising problems
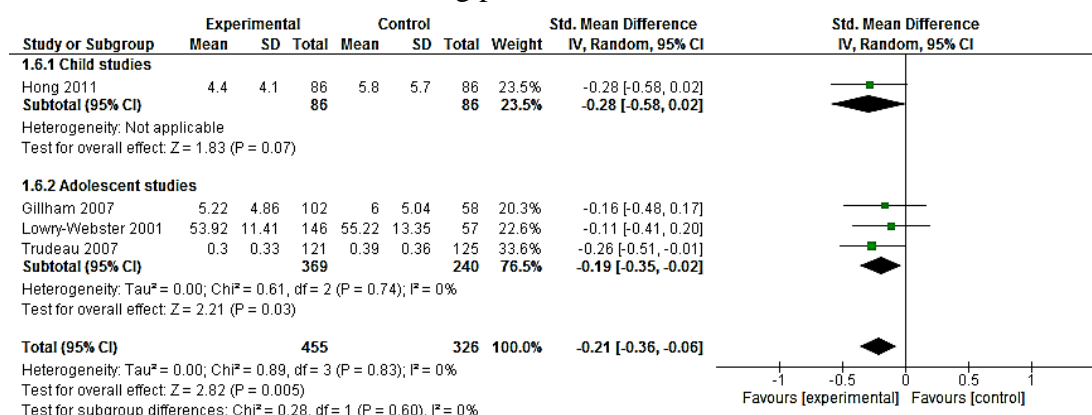
Figure S1.6. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: externalising problems
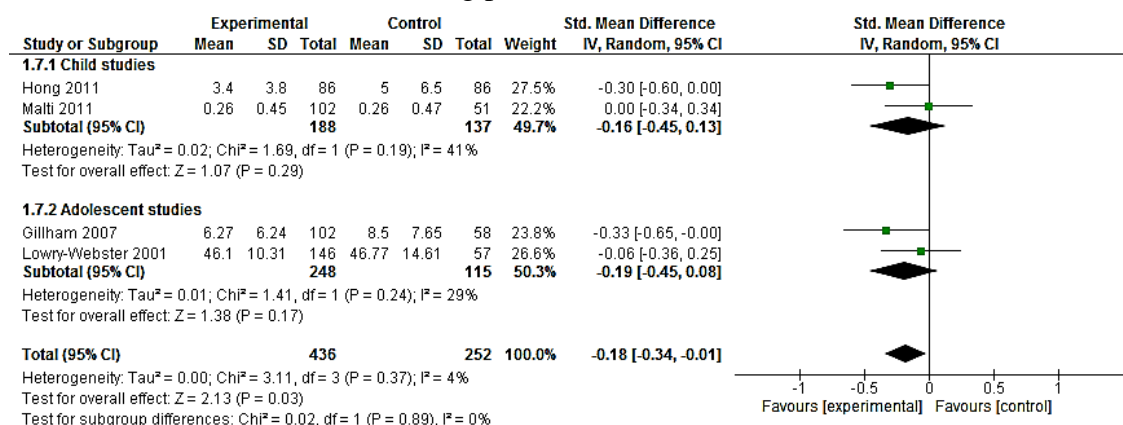
Figure S1.7. Forest plot of comparison: intervention versus control; child, adolescent and all trials; outcome: general psychological distress
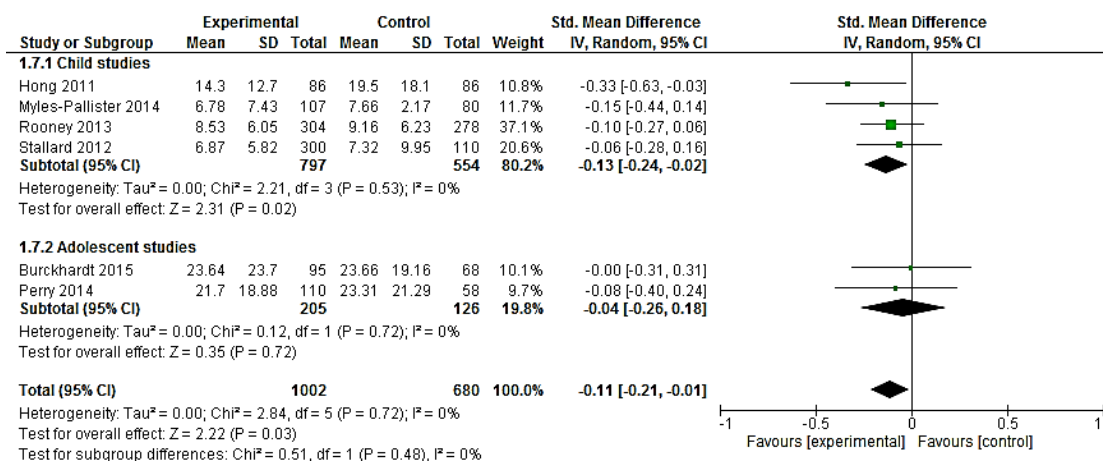
Figure S1.8. Forest plot of comparison: intervention versus control; all trials; short-term follow-up (≤12 months) subgroup analysis; outcome: all outcomes
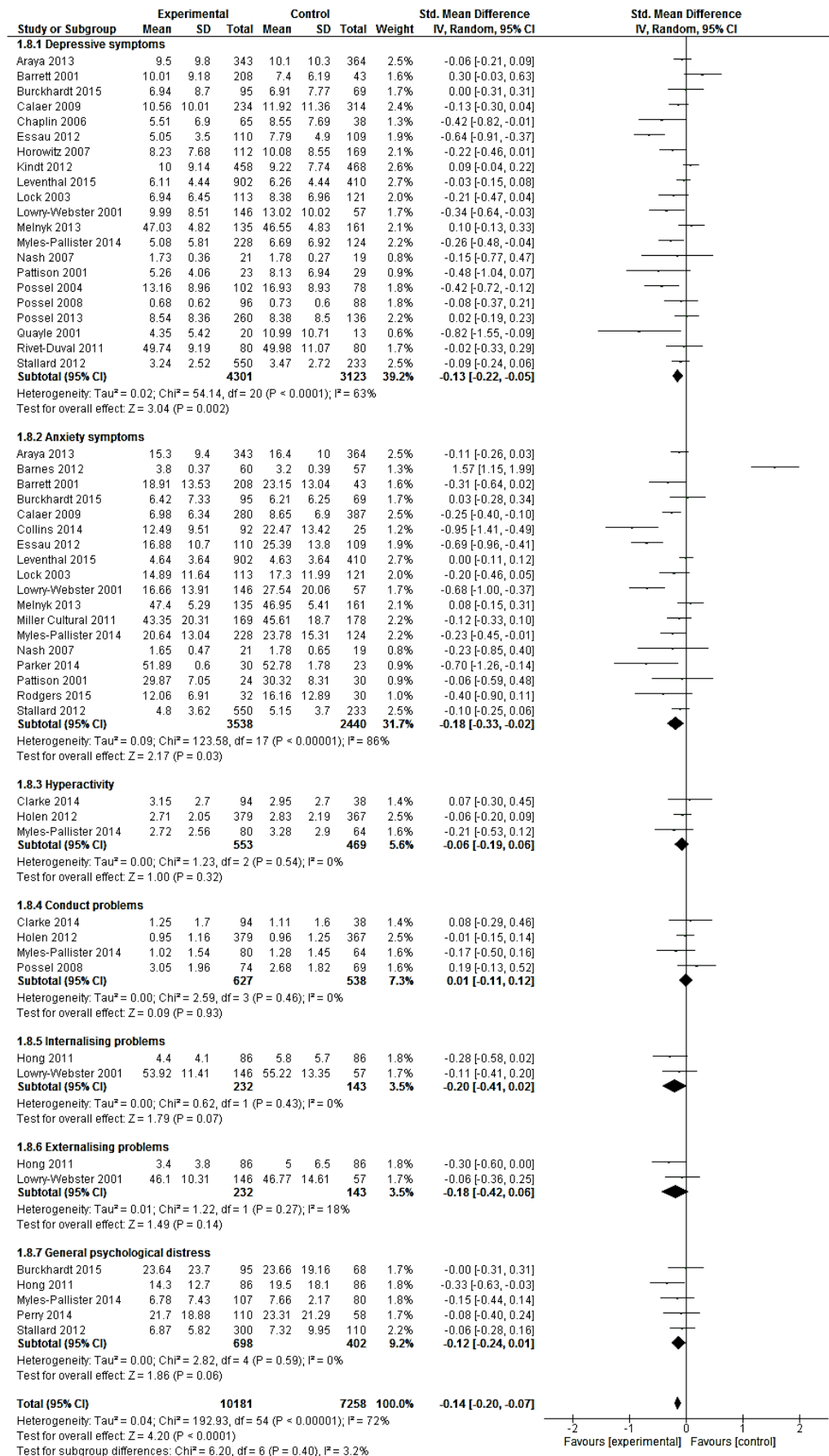
Figure S1.9. Forest plot of comparison: intervention versus control; all trials; long-term follow-up (>12 months) subgroup analysis; outcome: all outcomes
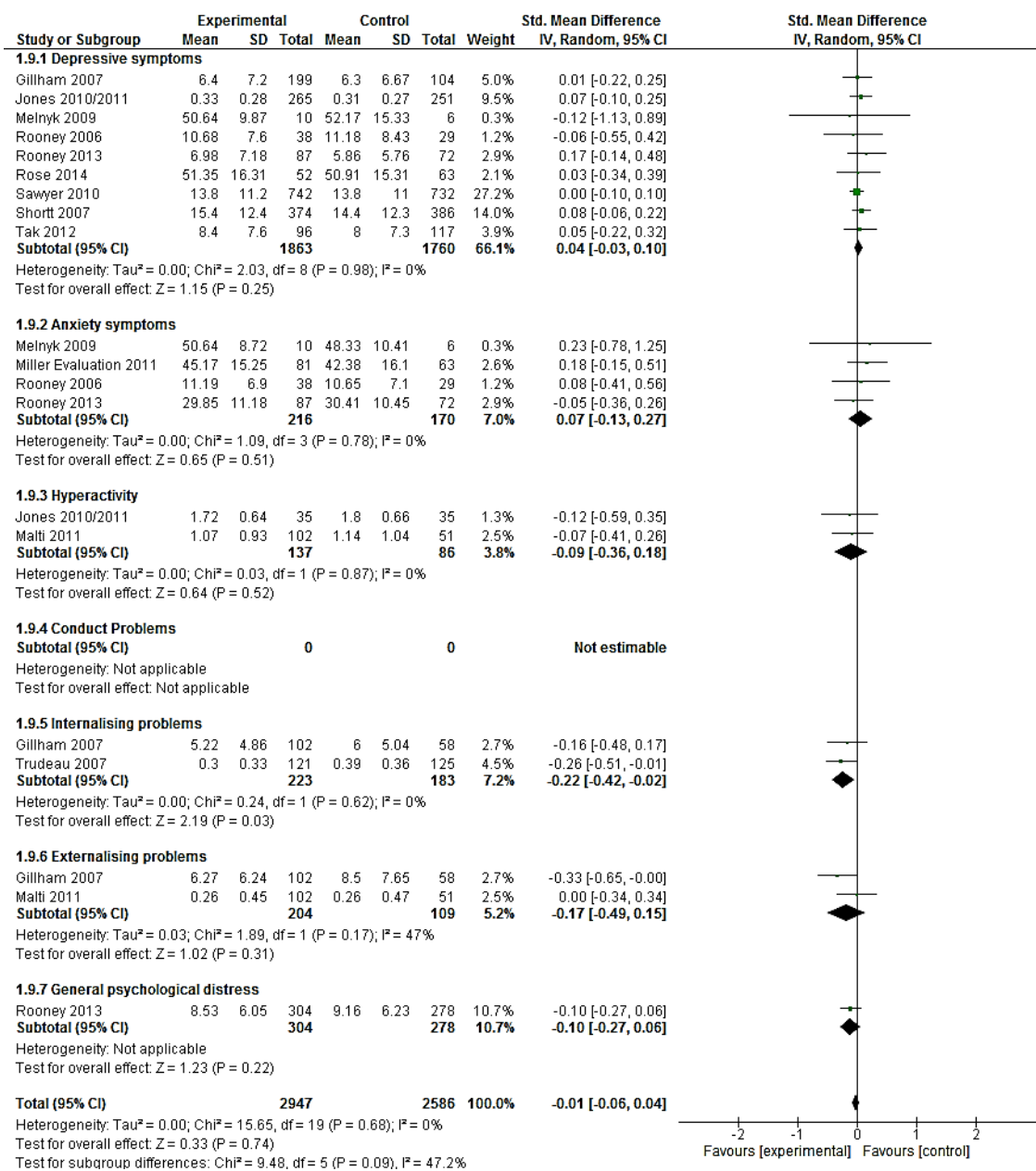
SUPPLEMENTARY APPENDIX C

Forest plots relating to meta-analysis results for the comparison of resilience-focussed intervention versus an alternate resilience-focussed intervention

Figure S2.1: Forest plot of comparison: resilience-focussed intervention versus alternate resilience-focussed intervention; child, adolescent and all trials; outcome: depressive symptoms
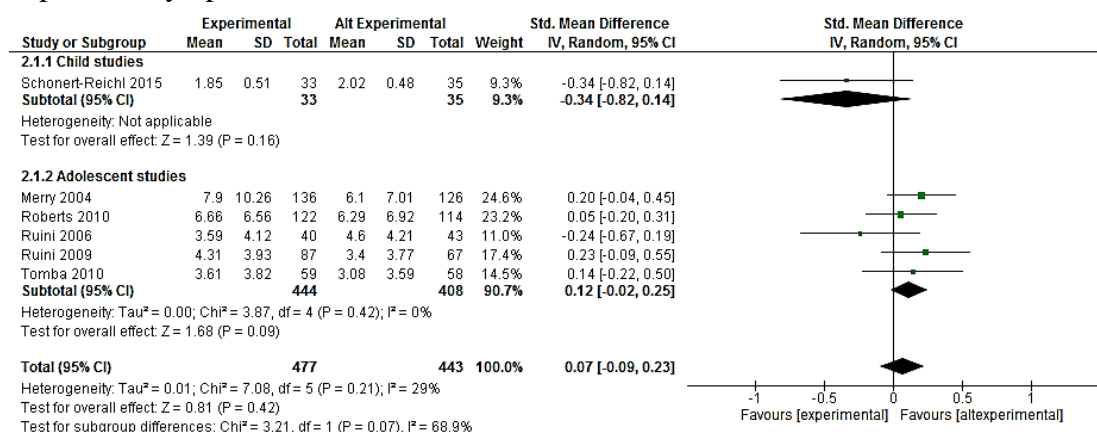
Figure S2.2: Forest plot of comparison: resilience-focussed intervention versus alternate resilience-focussed intervention; all trials (all adolescent); outcome: anxiety symptoms
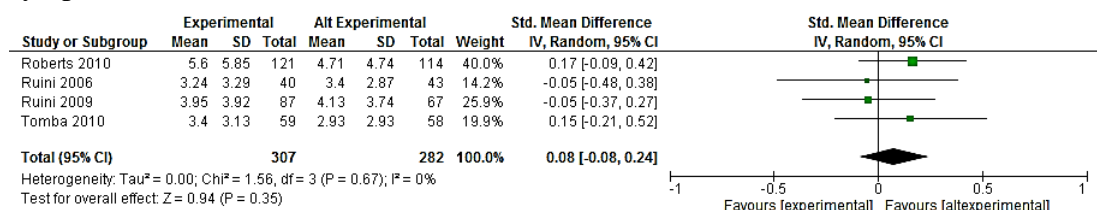
Figure S2.3. Forest plot of comparison: resilience-focussed intervention versus alternate resilience-focussed intervention; all trials; short-term follow-up (≤12 months) subgroup analysis; outcomes: depressive symptoms and anxiety symptoms
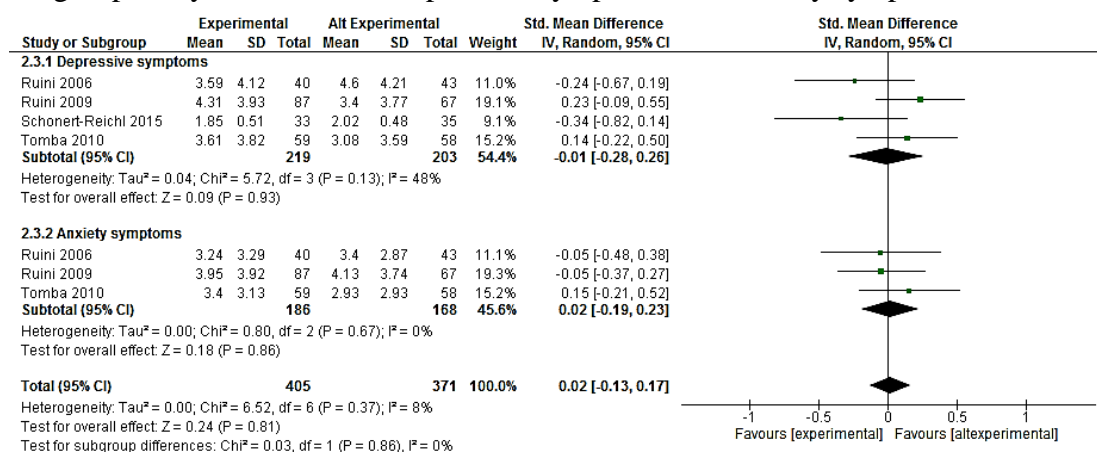
Figure S2.4. Forest plot of comparison: resilience-focussed intervention versus alternate resilience-focussed intervention; all trials; long-term follow-up (>12 months) subgroup analysis; outcomes: depressive symptoms and anxiety symptoms
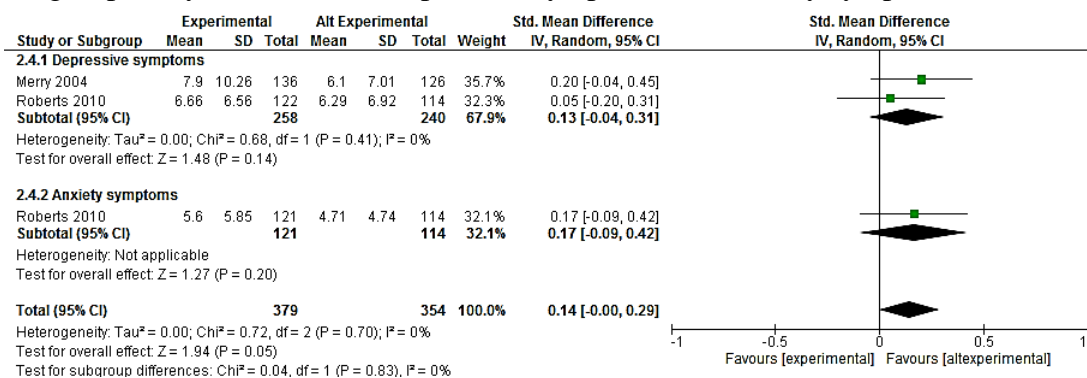
SUPPLEMENTARY APPENDIX D

Funnel plots for primary analysis of all studies, comparison: intervention versus control, by mental health outcome.

Depressive symptoms
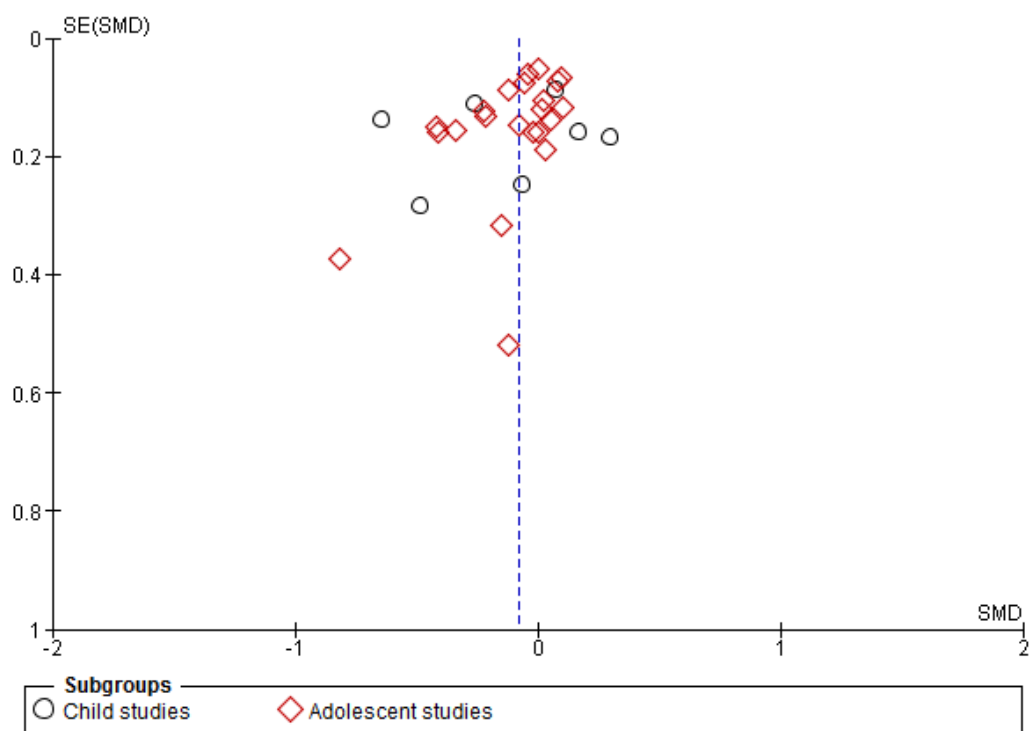
Anxiety symptoms
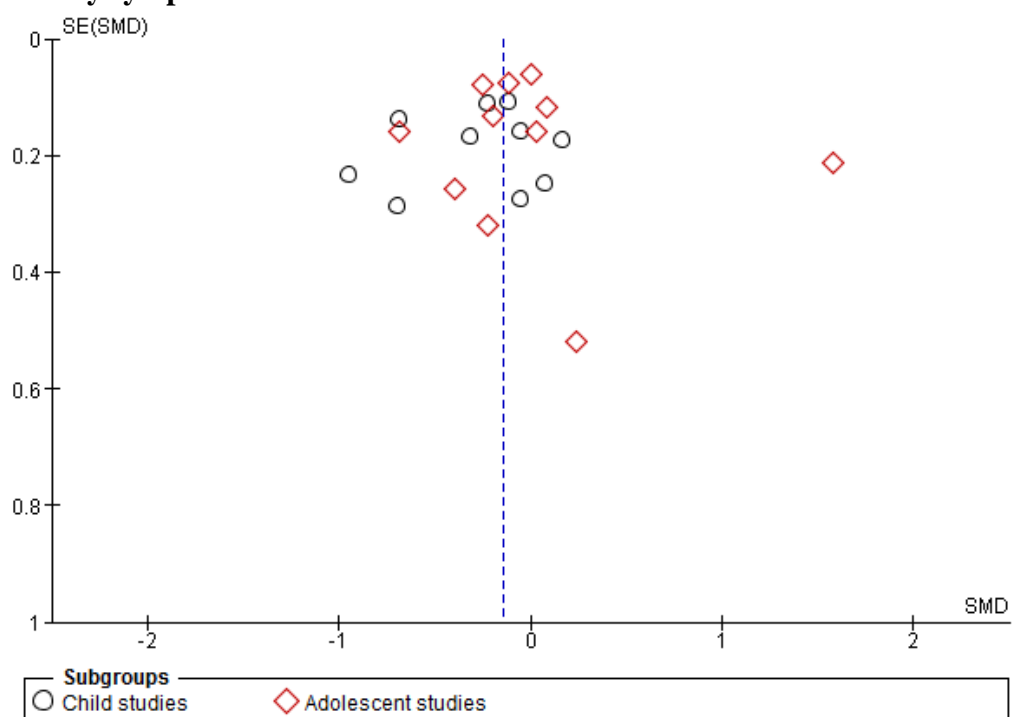
Hyperactivity
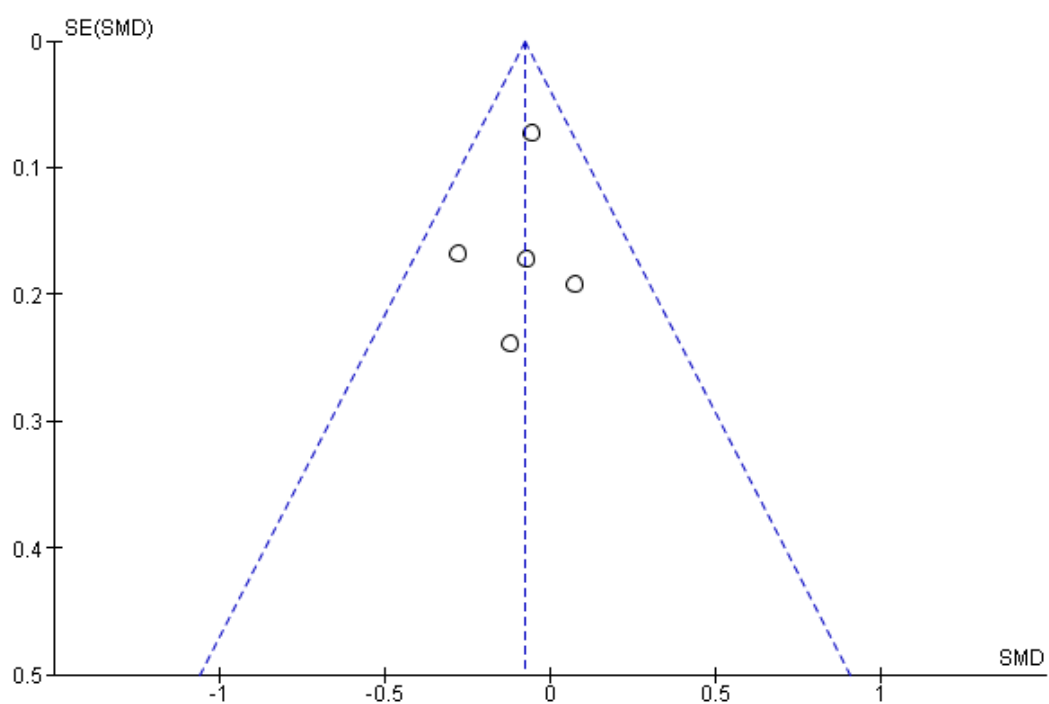
Conduct problems
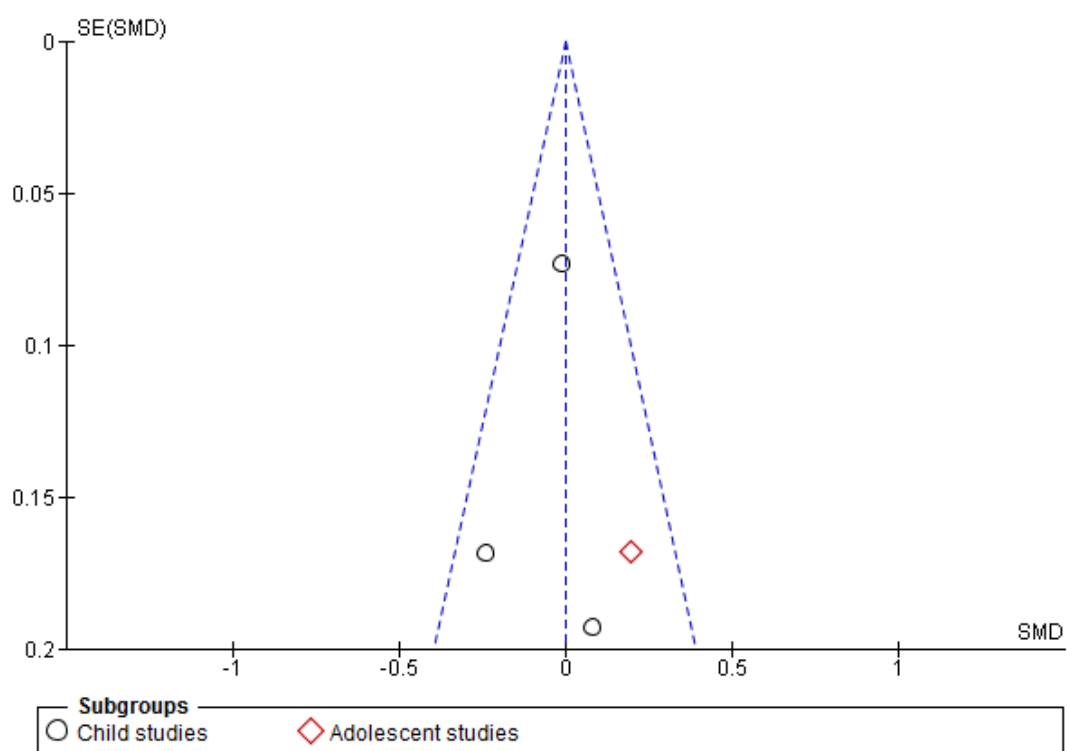
Internalising problems
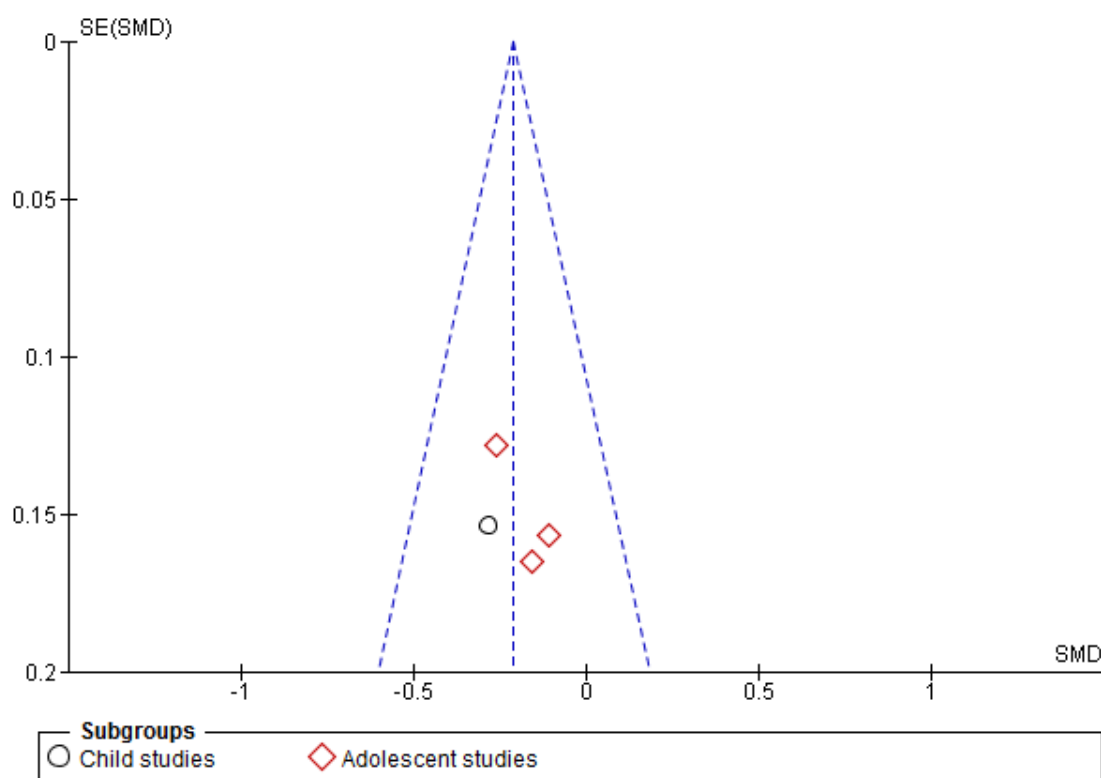
Externalising problems
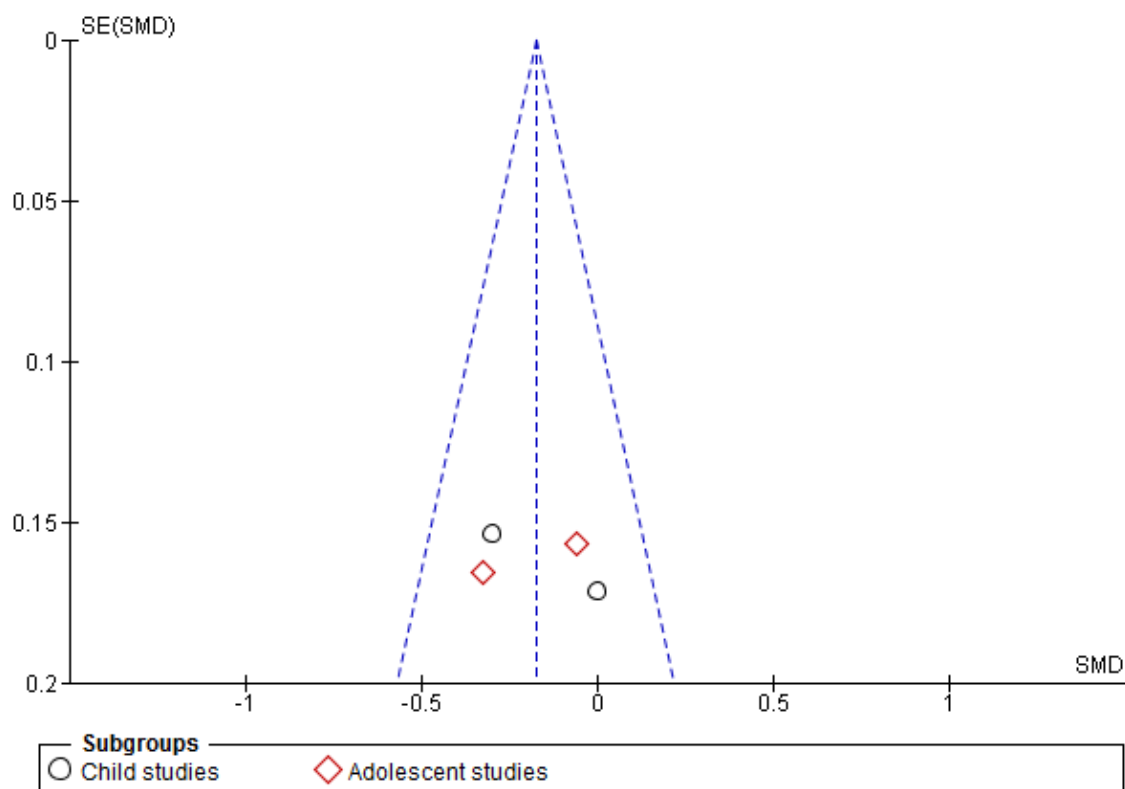
General psychological distress
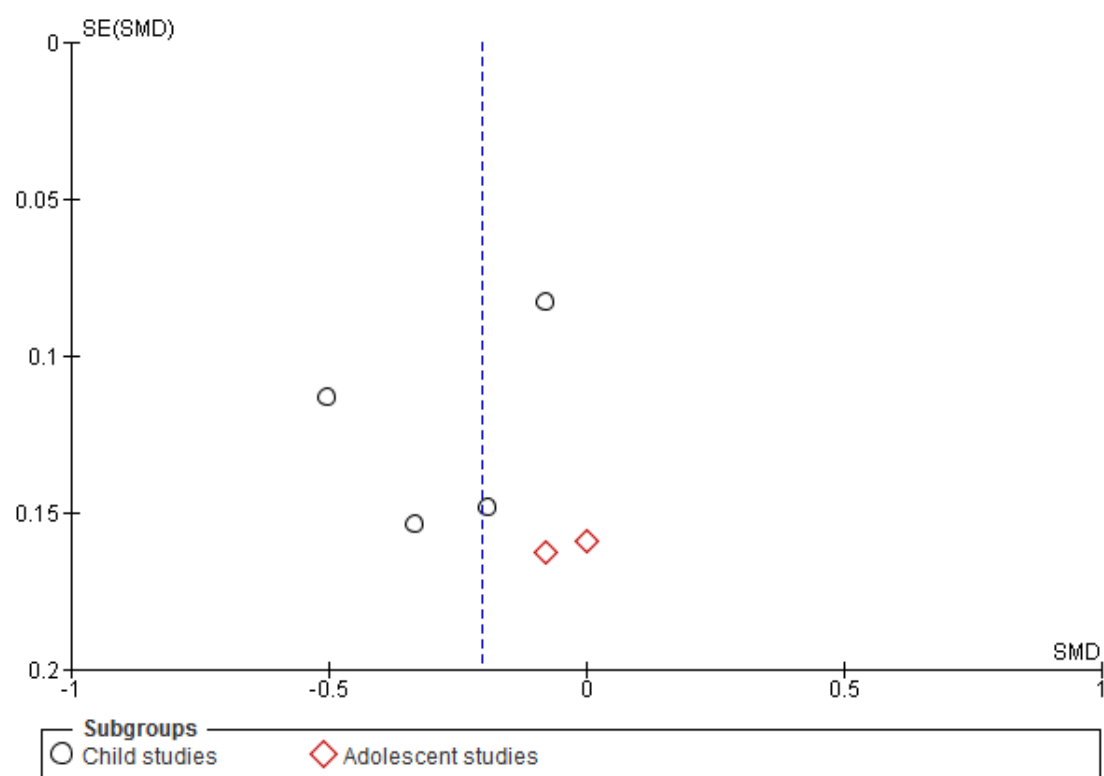
CHAPTER 4 Supplementary Appendices References

1.   Cowen EL, Hightower AD, Pedro-Carroll JL, Work WC, Wyman PA, Haffey WG. The Rochester Child Resilience Project. *School-based prevention for children at risk: The Primary Mental Health Project*. Washington, DC, US: American Psychological Association; US; 1996:255-274.

2.   Hodder RK, Freund M, Wolfenden L, et al. Systematic review of universal school-based resilience interventions targeting adolescent tobacco, alcohol or illicit drug use: review protocol. *BMJ Open.* 2014;4(5):e004718.

3.   National Scientific Council on the Developing Child. *Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13*. Cambridge, United States: National Scientific Council on the Developing Child, Center on the Developing Child at Harvard University, http://www.developingchild.harvard.edu;2015.

4.   Windle G. What is resilience? A review and concept analysis. *Reviews In Clinical Gerontology.* 2011;21(2):152-169.

5.   Shochet IM, Dadds MR, Holland D, Whitefield K, Harnett PH, Osgarby SM. The efficacy of a universal school-based program to prevent adolescent depression. *Journal of Clinical Child Psychology.* 2001;30(3):303-315.

6.   Gillham JE, Brunwasser SM, Freres DR. Preventing Depression in Early Adolescence: The Penn Resiliency Program. In: Abela JRZ, Hankin BL, eds. *Handbook of Depression in Children and Adolescents*. New York, United States of America: The Guilford Press; 2008:309-332.

7.   Noltemeyer AL, Bush KR. Adversity and resilience: A synthesis of international research. *School Psychology International.* 2013;34(5):474-487.

8.   Bond L, Glover S, Godfrey C, Butler H, Patton GC. Building capacity for system-level change in schools: Lessons from the Gatehouse Project. *Health Educ Behav.* 2001;28:368-383.

9.   Hanson TL, Kim JO. *Measuring resilience and youth development: The psychometric properties of the Healthy Kids Survey*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West;2007. Issues & Answers Report, REL 2007–No. 034.

10.   Masten AS, Herbers JE, Cutuli JJ, Lafavor TL. Promoting competence and resilience in the school context. *Professional School Counseling.* 2008;12(2):76-84.

11.   Fergus S, Zimmerman MA. Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health.* 2005;26:399-419.

12.   Lee TY, Cheung CK, Kwong WM. Resilience as a positive youth development construct: A conceptual review. *The Scientific World Journal.* 2012;390450:9.

13.   Sun J, Stewart DE. Promoting Student Resilience and Wellbeing: Asia-Pacific Resilient Children and Communities Project. In: Lovat T, Toomey R, Clement N, eds. *International Research Handbook on Values Education and Student Wellbeing.* New York, US: Springer Science + Business Media; 2010:409-426.

14.   McKnight LR, Loper AB. The effect of risk and resilience factors on the prediction of delinquency in adolescent girls. *School Psychology International.* May 1, 2002 2002;23(2):186-198.

15.   Sawyer MG, Pfeiffer S, Spence SH, et al. School-based prevention of depression: a randomised controlled study of the beyondblue schools research initiative. *J Child Psychol Psychiatry.* Feb 2010;51(2):199-209.

16.   Shochet IM, Ham D. Universal school-based approaches to preventing adolescent depression: Past findings and future directions of the Resourceful Adolescent Program. *International Journal of Mental Health Promotion.* 2004;6(3):17-25.

17.   Gillham JE, Reivich KJ, Freres DR, et al. School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn Resiliency Program. *J Consult Clin Psychol.* Feb 2007;75(1):9-19.

18.   Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. *Child Development.* 2000;71(3):543-562.

19.   Harvey J, Delfabbro PH. Psychological resilience in disadvantaged youth: A critical overview. *Australian Psychologist.* 2004;39(1):3-13.

20.   Masten AS. Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology.* 2007;19(3):921-930.

IMPROVING ADOLESCENT MENTAL HEALTH AND RESILIENCE THROUGH A RESILIENCE-BASED INTERVENTION IN SCHOOLS: STUDY PROTOCOL FOR A RANDOMISED CONTROLLED TRIAL

CHAPTER 5

TRIALS

STUDY PROTOCOL   **Open Access**

Improving adolescent mental health and resilience through a resilience-based intervention in schools: study protocol for a randomised controlled trial

Julia Dray[1,2,3*†], Jenny Bowman[2,3†], Megan Freund[1,2,3†], Elizabeth Campbell[1,2,3†], Luke Wolfenden[1,2,3†], Rebecca K Hodder[1,2,3†] and John Wiggers[1,2,3†]

Abstract

Background: Research investigating the effectiveness of universal interventions to reduce the risk of mental health problems remains limited. Schools are a promising setting within which adolescents can receive interventions aimed at promoting their mental health. The aim of this study is to assess the effectiveness of a resilience-based prevention-focused intervention in reducing the risk of mental health problems among adolescents attending secondary school in socio-economically disadvantaged areas.

Methods/design: A cluster randomised control trial will be conducted, with schools as the unit of randomisation. Initially, 32 secondary schools will be randomly allocated to a control or intervention group (12 control and 20 intervention). An intervention focused on improving student internal and external resilience factors will be implemented in intervention schools. A survey of students in Grade 7 in both intervention and control schools will be conducted (baseline) and repeated three years later when the students are in Grade 10. The Strengths and Difficulties Questionnaire will be used to measure the risk of mental health problems. At follow-up, the risk of mental health problems will be compared between Grade 10 students in intervention and control schools to determine intervention effectiveness.

Discussion: The study presents an opportunity to determine the effectiveness of a comprehensive resilience-based intervention in reducing the risk of mental health problems in adolescents attending secondary schools. The outcomes of the trial are of importance to youth, schools, mental health clinicians and policymakers.

Trial registration: Australian New Zealand Clinical Trials Registry, ACTRN12611000606987, registered 14 June 2011.

Keywords: adolescence, resilience, school, mental health, risk, intervention, prevention

Background

Globally, the mental health of young people has been identified as a major area of health concern [1], with an estimated 10 to 20% of children and adolescents reported to have mental health problems [2]. In Australia, just over a quarter of young people aged 16 to 24 years report to have experienced a mental disorder in the past 12 months [3], with the prevalence of such disorders decreasing as age increases [3].

For adolescents, the risk factors for the development of mental health problems include social isolation, academic pressures, low self-esteem and poor body image [4,5], as well as health risk behaviours such as drug and alcohol use [6-8]. Research indicates mental health problems may also develop as a result of adversity, such as trauma or a stressful life event, and that childhood adversities can have significant and lasting negative effects on mental health that persist into adulthood [9-12].

Not all young people who experience disadvantage or adversity experience negative mental health outcomes. The concept of resilience provides one possible explanation for the ability of some individuals to maintain positive mental health in the face of adverse life circumstances [13]. Whilst often an inconsistently defined construct

* Correspondence: Julia.dray@hnehealth.nsw.gov.au
†Equal contributors
[1]Hunter New England Population Health, Hunter New England Local Health District, Locked Bag 10, Wallsend, NSW 2287, Australia
[2]The University of Newcastle, Callaghan, NSW 2308, Australia
Full list of author information is available at the end of the article

[14,15], the concept involves the ability, when faced with stress or adversity, to actively employ individual traits (internal factors) and wider social, community and environmental supports (external factors) to return to or maintain a positive state of mental health and functioning [16]. Internal resilience factors include personal strengths and factors such as self-efficacy and problem-solving skills [17-19]. External resilience factors include meaningful school, home and community participation, and prosocial peers [18,19].

Resilience in the context of adolescence and mental health is defined as a process by which risks are encountered, and assets or resources (internal and external resilience factors) are used to avoid a negative outcome, such as mental health problems [20-22]. Previous research in this area is limited; however, it suggests that high levels of resilience may prevent the development of mental health problems in adolescents [23]. In a study of 307 Norwegian adolescents aged 14 to 18 years, higher resilience scores were associated with lower scores for levels of depression, stress, anxiety and obsessive–compulsive symptoms [23]. Such an association was also found in relation to depressive symptoms in a separate sample of 387 Norwegian adolescents aged 13 to 15 years [24], supporting the suggestion that fostering resilience may prevent the development of mental health problems in adolescents [23].

Schools provide an opportune setting in which interventions to reduce the risk of mental health problems and to promote the resilience of adolescents may take place [25]. Positive outcomes with respect to both participant resilience factors and aspects of mental health have been reported in the limited number of school-based interventions that have to date adopted a resilience approach to target both outcomes. For example, the Penn Resiliency Program, a group cognitive-behavioural intervention delivered in selected schools, has been found to reduce depressive symptoms across early to mid-adolescence [26,27]. Similarly, the Asia-Pacific Resilience Project, a school-based resilience program, has been found to be effective in reducing mental health problems for younger children in Grades 1 to 6 [28]. In the authors' knowledge, however, no such studies have utilised randomised controlled study designs, included a comprehensive measure of multiple external and internal resilience factors, and additionally assessed the risk of a range of mental health problems.

Given the identified gaps in research surrounding mental health and resilience in young people, a study is planned to assess the effectiveness of a comprehensive resilience-based prevention-focused intervention. The intervention is designed to improve student resilience factors and reduce the risk of mental health problems of adolescents attending secondary school in socio-economically disadvantaged areas. It is hypothesised that at follow-up, Grade 10 students in intervention schools will have a lower likelihood of being at risk of mental health problems compared to Grade 10 students in control schools.

Methods/design
Study design
A cluster randomised control trial design (Figure 1) will be conducted. The unit of randomisation will be the school. Initially, 32 schools in socio-economically disadvantaged areas will be randomly selected to participate in the study and randomly allocated to either the control (12 schools) or intervention group (20 schools). Web-based surveys will be conducted with all consenting Grade 7 students at baseline in 2011. Follow-up data will be collected from the same cohort of students three years later in 2014, when the students are in Grade 10.

The trial has been approved by the Hunter New England Health Human Research Ethics Committee (Ref no. 09/11/18/4.01), the University of Newcastle Human Research Ethics Committee (Ref no. H-2010-0029), the Aboriginal Health and Medical Research Council (Ref no. 776/11), the New South Wales Department of Education and Training State Education Research Approval Process (Ref no. 2008118), and the relevant Catholic Schools Offices. The trial is registered with the Australian New Zealand Clinical Trials Register (Ref no. ACTRN12611000606987).

Participants
School sample
The study will be conducted within one Local Health District in New South Wales (NSW), Australia. The district covers an area of approximately 130,000 square km [30], has a large metropolitan centre, large regional areas and many smaller rural and remote communities [31].

The study will be conducted in secondary schools, both Catholic and government, within the study district. To serve as a sampling frame, a list of all schools in the study area will be obtained from the NSW Department of Education and Training and from relevant regional Catholic School Offices. Eligible schools will be located within a disadvantaged Local Government Area (using the Socio-Economic Indexes for Areas (SEIFA), which are indexes of relative socio-economic advantage and disadvantage by Local Government Area) [32], have a secondary student population of 400 students or more, have enrolments in Grades 7 to 10, and be co-educational. Central schools, boarding schools and schools that are entirely special needs or selective in nature will be ineligible.

School recruitment
Briefing meetings will be used to inform principals of eligible schools regarding the study, prior to the issuing

Figure 1 Estimated CONSORT flow diagram for the schools' progress through the trial phases (Hodder et al. 2012) [29].
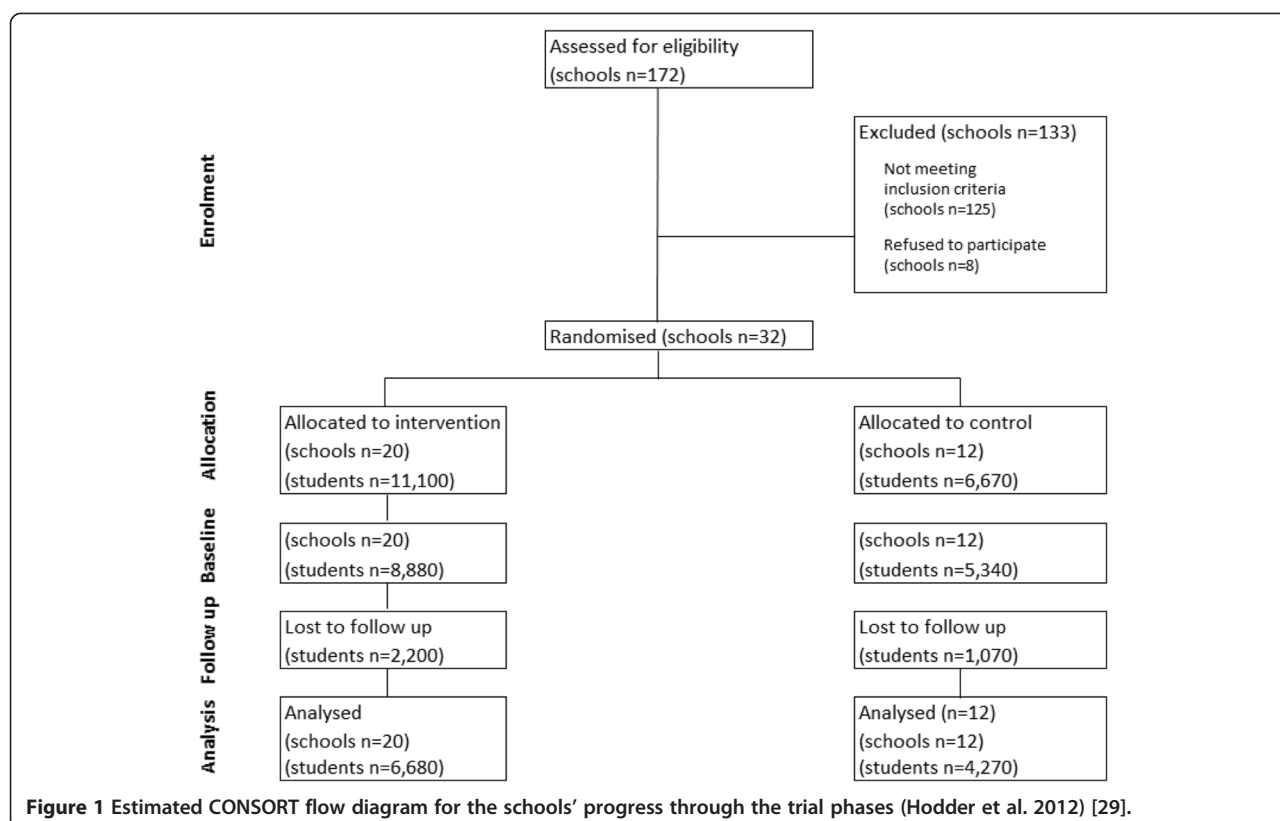
of invitations to participate. Following this, eligibility interviews with school principals will be used to ascertain current strategies used to promote resilience within the schools. Schools identified as having implemented strategies across Grades 7 to 10 addressing each domain of the Health Promoting Schools framework (curriculum, teaching and learning; ethos and environment; and partnerships and services) [33] will be excluded.

Using a random number function (in Microsoft Excel), an independent statistician will be employed to order eligible schools. An invitation to participate will be sent to principals of the first 32 randomly selected secondary schools. Invitation letters will be emailed to inform principals of the study and request written consent for school participation. One week from the emailing of the information statements, principals who have not provided a response will be contacted by research staff to discuss any questions related to the study and to prompt a written response. At two weeks from the initial invitation, additional prompts will be made by research staff to principals still to reply. In the event that a school does not respond to the invitation or declines to participate, the school recruitment process described above will be repeated, with the next identified eligible school invited to participate. The process will be continued until 32 schools have been recruited.

Random allocation of schools

Following recruitment of the 32 schools, the sample will be stratified by school size (medium-sized schools have 400 to 800 students and large schools >800) and by engagement in a national government funding initiative directed at schools in disadvantaged areas [34]. Random allocation will be completed using Microsoft Excel to assign schools to the intervention or control group in a 20:12 block design ratio. Schools, parents of students and enrolled students will not be blinded to study group allocation.

Student sample

Students will be eligible to participate if enrolled in Grade 7 (first year of high school, typically aged between 12 and 13 years), and enrolled in a participating school. At baseline, it is estimated that approximately 3,600 Grade 7 students will be eligible to participate.

Student recruitment

Parental consent will be required for student participation in the evaluation component of the study. To maximise parental consent for child participation, a number of strategies will be utilised [35]. To maximise dissemination of study information, schools will be provided with information to share with the school community through existing school communication channels (i.e.

newsletters, staff development days, staff and school bulletin boards, assemblies, community and parent gatherings). Study information packs will be mailed to parents. Packs will contain a cover letter formatted on the school letterhead from the principal, a detailed study statement for parents, a simplified study statement for students, a consent form requiring a parental signature for child participation in the study, and a reply paid envelope for return of the parental consent form. Within the parent study statement, parents will be provided information regarding a free call message service that they can call if they do not wish to have further contact from the research team.

Two weeks following the initial mailing of the study information packs, school-affiliated staff will telephone non-responding parents. During the call, parents will be asked to provide verbal consent or non-consent for their child to participate. For parents who provide verbal consent, replacement study information (a parent study statement, consent form and reply paid envelope) will be provided by mail. Additionally, informed student consent for participation in the evaluation component of the study, will be required from each participant prior to completion of student surveys at each point of data collection.

Intervention
Intervention content
The multi-strategy resilience-based prevention-focused intervention will be implemented at a whole-school level (all students Grades 7 to 10). The intervention will incorporate a range of programs and strategies targeted at enhancing both the internal and external resilience factors of students in each of the three Health Promoting Schools domains (curriculum, teaching and learning; ethos and environment; and partnerships and services) [33]. A review of school-based programs by the World Health Organisation found that school-based interventions that adopted the Health Promoting Schools approach, and included intervention components in more than one school domain, to be most effective in achieving beneficial outcomes [36].

Intervention programs and strategies will be delivered and/or facilitated by the schools, rather than the researchers. Consequently, specific strategies and programs implemented may vary across schools. However, schools will be required to meet prescribed intervention standards when selecting and implementing resilience strategies. The intervention will involve the delivery of a range of unspecified evidence-based programs. The programs MindMatters [37,38] and Resourceful Adolescent Program [39] are listed in the next section (see 'Health-promoting intervention strategies targeting resilience' section) as examples of existing resilience programs suitable for selection by intervention schools. No specific evidence-based programs

are mandatory for implementation within intervention schools.

Health-promoting intervention strategies targeting resilience [29]
Strategies relating to curriculum, teaching and learning:

- 100% of students in Grade 7 to 10 receive a minimum of 12 age-appropriate resilience lessons across subjects (e.g. implementation of MindMatters curriculum resources) [37,38].
- 100% of students in Grade 7 to 10 receive an additional 9 hours of non-curriculum-based resilience programs (e.g. implementation of the Resourceful Adolescent Program) [39].

Strategies relating to ethos and environment:

- Rewards and recognition program implemented across the whole school.
- Peer support or peer mentoring programs implemented across the whole school.
- Anti-bullying programs implemented across the whole school.
- Cultural awareness program implemented across the whole school.
- Teachers offered training to implement effective pedagogy within learning environments (e.g. MindMatters Teaching and Learning for Engagement) [37,38].

Strategies relating to partnerships and services:

- Promotion and engagement of local community organisations, groups and clubs in the school (e.g. charity organisations, and church and sporting groups).
- Promotion and engagement of health and community services in the school (e.g. Youth, and Child and Adolescent Mental Health Services).
- School implements strategies to increase parental involvement in the school (e.g. school events and effective parent communication strategies).
- School promotes strategies to address students' resilience at home (e.g. newsletters regarding enhancing student resilience).

Intervention adoption strategies
Previous critical evaluations of school-based health promotion strategies have identified adoption and implementation difficulties, and made recommendations for implementation strategies and intervention qualities deemed most effective for school-based interventions with a mental health focus [37,38,40,41]. A number of such intervention

adoption strategies will be employed to facilitate intervention implementation and are listed below.

School intervention officers

School intervention officers will be employed at a ratio of one per four schools during the intervention period. The role of the intervention officers is to support schools in resilience intervention planning and data collection. School intervention officers will also be responsible for monitoring and maintenance of project records, and feedback of progress to schools, including specific feedback involving data obtained from student surveys. The intervention officers will not be involved in the direct delivery of programs and strategies to students.

Monitoring and feedback

Feedback on intervention progress will be delivered to school principals, other school staff, executive staff from the NSW Department of Education and Training, and relevant regional Catholic School Offices, on a regular basis.

Financial resources

Schools will be allocated AU$2,000 of funding annually, for the duration of the study, to support implementation of the resilience strategies. This funding can be expended on a range of purposes including teacher professional development; training in effective pedagogy for enhancing student resilience [42] and mental health literacy for both students and staff [43]; teacher relief to participate in training or intervention planning; and the purchase of evidence-based resilience programs or materials.

Cultural advice

An additional AU$2,000 will be allocated to schools annually to support Aboriginal student resilience. An Aboriginal Cultural Steering Group will be consulted for the duration of the research project. The purpose of the Steering Group will be to provide an opportunity for relevant Aboriginal cultural perspectives, advice, guidance and direction to influence the design, implementation, evaluation and dissemination of all project elements.

School core team

To encourage ownership and leadership in the implementation of the intervention within schools, a school core team will be established [37]. This may be formed through the enhancement of an existing leadership group within the school. Membership should include the allocated school intervention officer, student leaders, school staff including the school liaison officer and a minimum of one executive school staff member (e.g. principal, deputy principal and/or head of faculty).

Structured planning process

A structured planning process will be implemented to facilitate the development of a tailored intervention plan for each school. Prior to program implementation, a needs assessment will be conducted within each school to identify school-specific resilience needs, concerns and opportunities, and inform planning of strategies targeting student resilience. The assessment will consist of a student survey of both internal and external resilience factors for all students in Grades 7 to 10, as well as a survey of the school environment completed by executive school staff (e.g. principal, deputy principal and/or head of faculty) to identify existing school policies, practices and curriculum that may potentially impact student resilience (e.g. strategies in place that could enhance external resilience such as student empowerment programs or peer mentoring programs).

A detailed implementation guide will be provided to all schools outlining the intervention planning process along with a matrix of existing evidence-based resilience programs (e.g. MindMatters [37,38], SenseAbility [44], and Rock and Water [45,46]). Planning workshops will be held in each school with school staff and parents, and with other interested school community organisations and community members invited to attend and contribute to the sessions. Data collected during the needs assessment will be presented and discussed. From the workshops, each school will develop a tailored intervention plan to be endorsed by the school executive. Where possible, intervention plans and strategy implementation will be integrated into existing school governance, welfare and planning processes to ensure there is the minimum burden on schools during the implementation period.

Control group

Control schools will continue to follow existing school policies and provide students with regular planned curriculum and non-curriculum activities. Baseline and follow-up student survey reports will be provided to all control schools following survey completion. Upon conclusion of the research project, all printed intervention resources will be provided to control schools.

Data collection procedures

Students will complete an online survey during class time. Surveys will take place at both baseline and follow-up, under the supervision of research and school staff, and will take approximately 25 minutes.

For intervention schools, school characteristics (including major staff changes or adverse events) and implementation of intervention strategies will be monitored using the project records throughout the intervention period.

Measures

Student demographics

The online student survey will contain demographic items including age, gender, grade, Aboriginal and/or Torres Strait Islander status, residential postcode, languages spoken at home and other cultural background.

Primary outcome: risk of mental health problems

Risk of mental health problems will be measured using the youth self-report version of the Strengths and Difficulties Questionnaire (SDQ) [47,48]. The SDQ consists of five subscales: emotional symptoms (five items), conduct problems (five items), hyperactivity/inattention (five items), peer relationship problems (five items) and prosocial behaviour (five items). Statements are rated on a three-point Likert scale: 0 (not true), 1 (somewhat true) and 2 (certainly true); with a small number of items negatively worded and reverse scored. Student scores from the 25 individual questions that are in each of the SDQ subscales will be used to calculate five subscale scores, with 0 to 10 being the possible range of scores for each subscale. High scores on the first four subscales listed indicate difficulties, with high scores in the final subscale (prosocial behaviour) reflecting strengths [49]. Four of the five subscale scores (emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problems) will be added to determine a total difficulties score (total SDQ) with a range of 0 to 40, with the total SDQ score being the primary trial outcome. The score for the fifth subscale (prosocial behaviour) is excluded from the calculation of the total difficulties score, as the presence or absence of prosocial behaviour is not clearly indicative of the presence or absence of psychological difficulties [47,48]. Reliability has been demonstrated for the youth self-report version of the SDQ in relation to use of the total SDQ score (Cronbach's $\alpha = 0.80$ to 0.82) [48,50], and the five SDQ subscales: emotional symptoms ($\alpha = 0.66$ to 0.75), conduct problems ($\alpha = 0.60$ to 0.72), hyperactivity/inattention ($\alpha = 0.67$ to 0.69), peer relationship problems ($\alpha = 0.41$ to 0.61) and prosocial behaviour ($\alpha = 0.65$ to 0.68) [48,50]. Additionally, the youth self-report version of the SDQ has demonstrated validity when used for assessing the risk of mental health problems [48-50], and in the comparison of pre- and post-intervention scores, in adolescents [51].

Secondary outcome: resilience

Student internal and external resilience factors will be measured using the Resilience and Youth Development Module of the California Healthy Kids Survey (CHKS) [52,53]. The survey is one of the few to demonstrate conceptual adequacy by examining resilience using a multi-level approach [54]. Items within the survey measure six internal resilience factor subscales and eight external resilience factor subscales, which have demonstrated adequate reliability [19]. The internal resilience subscales include items addressing co-operation and communication (two items), self-efficacy (four items), empathy (three items), problem-solving (three items), self-awareness (three items) and goals and aspirations (three items). The external resilience subscales include items addressing school support (six items), school meaningful participation (three items), community support (six items), community meaningful participation (three items), home support (six items), home meaningful participation (three items), peer caring relationships (three items) and prosocial peers (three items). Students will be asked to respond to all items using a four-point Likert scale: 1 (never true), 2 (true some of the time), 3 (true most of the time) and 4 (true all of the time). Scores from individual survey items are averaged to calculate scores for each of the 14 resilience subscales. Scores from each of the internal resilience subscales and external resilience subscales are averaged to calculate a total internal resilience score and a total external resilience score. The total internal and total external resilience scores are averaged to obtain an overall resilience score. The possible range for all resilience scores (item scores, resilience subscale scores, total internal and external resilience scores and overall resilience score) is one to four. CHKS subscales have been found to be internally consistent and valid (internal resilience subscales: Cronbach's $\alpha = 0.73$ to 0.85; external resilience subscales: Cronbach's $\alpha = 0.74$ to 0.95) [19].

Sample size

Results of past research [25,29] indicate that approximately 80% of students will participate in the survey. It is estimated that after accounting for a 25% attrition rate from baseline to follow-up, the cohort sample of interest will be composed of 1,360 Grade 7 students and 1,020 Grade 10 students in the control group, and 2,270 Grade 7 students and 1,700 Grade 10 students in the intervention group.

Primary outcome: risk of mental health problems

Using the above participant estimations, a cluster size of approximately 85 students per school is estimated. Based on a one-unit increase in total SDQ scores for control students (based on Australian norms indicating approximately a one-unit increase in score with age [55]), and a conservative estimate of a two-point reduction in total SDQ scores for intervention students (previous research indicates positive changes following intervention or treatment indicated by a reduction in self-report total SDQ score ranging from 4.93 [56] to 7.25 points [57]), it is estimated that approximately 11.6% more students at Grade 10 will score in the category of unlikely risk of mental health problems for the intervention group compared to the control group. The conversion from scores to percentages of

students in the unlikely risk category was made using the SDQ frequency distribution for British 11 to 15 year olds, both sexes combined [58]. Based on an intra-cluster correlation coefficient of 0.037 [59,60], and the conservative assumption of independence of scores within a subject from Grades 7 to 10, the study will have 80% power to detect a difference of 11.6% between the two groups at Grade 10, at a 5% significance level.

Statistical analysis
Analysis of demographic characteristics
To assess non-response bias, chi-squared analysis will be used to compare parental consent rates between intervention and control schools. Comparison of student demographic characteristics, for the intervention and control groups, will be completed at both baseline and follow-up using chi-squared analysis.

Analysis of primary outcome: risk of mental health problems
As recommended by the Australian Mental Health Outcomes and Classification Network [61], student total SDQs will be used to identify the proportion of consenting students at each school who are considered to be unlikely (total SDQ score 0 to 15), slightly (total SDQ score 16 to 19) and highly or significantly (total SDQ score 20 to 40) at risk of developing clinically significant mental health problems. Descriptive statistics will be used to report the proportion of students scoring in each risk category.

Intervention effectiveness will be assessed via the primary trial outcome using mixed models [62], under an intention-to-treat framework and using all available data. The primary outcome will be the proportion of students unlikely to be at risk of developing clinically significant mental health problems (total SDQ score <16) between Grade 10 students in intervention and control schools. Secondary outcomes will include analysis of the SDQ total and subscales both as scores and risks, the risks being examined as binary variables. The modelling approach will accommodate school clustering, and adjust for potential confounding effects (e.g. student or school characteristics). Sensitivity analyses will be carried out using pattern-mixture models. Subgroup analysis will be performed by gender. All data analysis will be conducted using the statistical program SAS [63].

Discussion
In the authors' knowledge, the present study is the first to investigate the effect of a resilience-based prevention-focused intervention in schools, utilising a randomised control study design, inclusive of a comprehensive measure of internal and external resilience factors, and incorporating intervention components into the school curriculum, environment and partnerships, for the proposed length of time, on reducing the risk of mental health problems in adolescents.

The mental health of young people is linked to many short- and long-term health outcomes. The findings of this research will add significantly to the understanding of the mental health of young people and has the potential to inform universal interventions to increase the positive mental health, resilience and life outcomes of adolescents. Implementing and evaluating school-based resilience interventions are of direct critical importance to students, teachers, mental health practitioners and policymakers [64].

Trial status
The trial is ongoing and recruitment is not complete.

Author details
[1]Hunter New England Population Health, Hunter New England Local Health District, Locked Bag 10, Wallsend, NSW 2287, Australia. [2]The University of Newcastle, Callaghan, NSW 2308, Australia. [3]Hunter Medical Research Institute, Locked Bag 1, Hunter Region Mc, NSW 2310, Australia.

References
1. Buckley S, Cannon M, Chambers D, Coughlan H, Duffy M, Gavin B, Keeley H, McGorry P, Power P, Shiers D: *The International Declaration on Youth Mental Health.* Killarney, Ireland: International Association of Youth Mental Health; 2011.
2. Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, Rohde LA, Srinat S, Ulkuer N, Rahman A: **Child and adolescent mental health worldwide: evidence for action.** *Lancet* 2011, **378**(9801):1515–1525.
3. Australian Bureau of Statistics: *National Survey of Mental Health and Wellbeing: Summary of Results. Volume 4326.* Canberra, Australia; 2007.
4. Mental Health Foundation: *Truth Hurts: Report of the National Inquiry into Self-Harm Among Young People.* London; 2006.
5. Stice E, Hayward C, Cameron RP, Killen JD, Taylor CB: **Body-image and eating disturbances predict onset of depression among female adolescents: a longitudinal study.** *J Abnorm Psychol* 2000, **109**(3):438–444.

6. Gordon A: *Comorbidity of Mental Disorders and Substance Use: A Brief Guide for the Primary Care Clinician.* Department of Health and Ageing, Australian Government: ACT, Australia; 2008.

7. Arseneault L, Cannon M, Poulton R, Murray R, Caspi A, Moffitt TE: **Cannabis use in adolescence and risk for adult psychosis: longitudinal prospective study.** *Br Med J* 2002, **325**(7374):1212–1213.

8. Moore THM, Zammit S, Lingford-Hughes A, Barnes TRE, Jones PB, Burke M, Lewis G: **Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review.** *Lancet* 2007, **370**(9584):319–328.

9. Turner HA, Butler MJ: **Direct and indirect effects of childhood adversity on depressive symptoms in young adults.** *J Youth Adolesc* 2003, **32**(2):89–103.

10. Arnow BA: **Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization.** *J Clin Psychiatry* 2004, **65**(suppl 12):10–15.

11. Kim-Cohen J, Caspi A, Moffitt TE, Harrington H, Milne BJ, Poulton R: **Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort.** *Arch Gen Psychiatry* 2003, **60**(7):709–717.

12. Kessler RC, Angermeyer M, Anthony JC, Graaf RD, Demyttenaere K, Gasquet I, Girololamo GD, Gluzman S, Gureje O, Haro JM, Kawakami N, Karam A, Levinson D, Mora MEM, Browne MAO, Posada-Villa J, Stein DJ: **Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative.** *World Psychiatry* 2007, **6**(3):168–176.

13. Masten AS: **Ordinary magic: resilience processes in development.** *Am Psychol* 2001, **56**(3):227–238.

14. Doll B, Lyon MA: **Risk and resilience: implications for the delivery of educational and mental health services in schools.** *Sch Psychol Rev* 1998, **27**(3):348–363.

15. Harvey J, Delfabbro PH: **Psychological resilience in disadvantaged youth: a critical overview.** *Aust Psychol* 2004, **39**(1):3–13.

16. Noltemeyer AL, Bush KR: **Adversity and resilience: a synthesis of international research.** *Sch Psychol Int* 2013, **34**(5):474–487.

17. Benard B: *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community.* Portland, OR, USA: Western Center for Drug-Free Schools and Communities; 1991.

18. Benard B: **Fostering resiliency in kids.** *Educ Leadership* 1993, **51**(3):44–48.

19. Hanson TL, Kim JO: **Measuring resilience and youth development: the psychometric properties of the healthy kids survey.** In *Issues & Answers Report, REL 2007, No. 034.* Washington, DC, USA: US Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West; 2007.

20. Hjemdal O, Friborg O, Stiles TC, Rosenvinge JH, Martinussen M: **Resilience predicting psychiatric symptoms: a prospective study of protective factors and their role in adjustment to stressful life events.** *Child Psychol Psychother* 2006, **13**(3):194–201.

21. Fergus S, Zimmerman MA: **Adolescent resilience: a framework for understanding healthy development in the face of risk.** *Annu Rev Public Health* 2005, **26**:399–419.

22. Patel V, Goodman A: **Researching protective and promotive factors in mental health.** *Int J Epidemiol* 2007, **36**:703–707.

23. Hjemdal O, Vogel PA, Solem S, Hagen K, Stiles TC: **The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents.** *Clin Psychol Psychother* 2011, **18**(4):214–321.

24. Hjemdal O, Aune T, Reinfjell T, Stiles TC: **Resilience as a predictor of depressive symptoms: a correlational study with young adolescents.** *Clin Child Psychol Psychiatry* 2007, **12**(1):91–104.

25. Patton GC, Bond L, Carlin JB, Thomas L, Butler H, Glover S, Catalano R, Bowes G: **Promoting social inclusion in schools: a group-randomised trial of effects on student health risk behaviour and well-being.** *Am J Public Health* 2006, **96**(9):1582–1587.

26. Cutuli JJ, Chaplin TM, Gillham JE, Reivich KJ, Seligman MEP: **Preventing co-occurring depression symptoms in adolescents with conduct problems: the Penn Resiliency Program.** *NY Acad Sci* 2006, **1094**:282–286.

27. Brunwasser SM, Gillham JE, Kim ES: **A meta-analytic review of the Penn Resiliency Program's effect on depressive symptoms.** *Am Psychol Assoc* 2009, **77**(6):1045–1054.

28. Sun J, Stewart DE: **Promoting student resilience and wellbeing: Asia-Pacific resilient children and communities project.** In *International Research Handbook on Values Education and Student Wellbeing.* Edited by Lovat T, Toomey R, Clement N. New York, NY: Springer Science + Business Media; 2010:409–426.

29. Hodder R, Freund M, Bowman J, Wolfenden L, Campbell E, Wye P, Hazell T, Gillham K, Wiggers J: **A cluster randomised trial of a school-based resilience intervention to decrease tobacco, alcohol and illicit drug use in secondary school students: study protocol.** *BMC Public Health* 2012, **12**:1009.

30. NSW Ministry of Health: *Annual Report 2010/11: NSW Health Districts. Volume 2.* Sydney, NSW, Australia; 2011:82–89.

31. Hunter New England Local Health District: about us. [http://www.hnehealth.nsw.gov.au/about_us]

32. Trewin D: *Information Paper Census of Population and Housing Socio-Economic Indexes for Areas: Australia 2001.* Canberra: Australian Bureau of Statistics; 2003.

33. World Health Organisation: *Planning Meeting in Health Promoting Schools Project: Background, Development and Strategy Outline of the Health Promoting Schools Project.* Copenhagen, Denmark; 1991.

34. NSW Department of Education and Communities: *Low Socio-Economic Status School Communities National Partnership.* Sydney, NSW, Australia: Department of Education and Training; 2011.

35. Wolfenden L, Kypri K, Freund M, Hodder R: **Obtaining active parental consent for school-based research: a guide for researchers.** *Aust NZ J Public Health* 2009, **33**(3):270–275.

36. Stewart-Brown S: *What is the Evidence on School Health Promotion in Improving Health or Preventing Disease and, Specifically, What is the Effectiveness of the Health Promoting Schools Approach?* Copenhagen, Denmark: WHO Regional Office for Europe (Health Evidence Network Report); 2006.

37. Wyn J, Cahill H, Holdsworth R, Rowling L, Carson S: **MindMatters, a whole-school approach promoting mental health and wellbeing.** *Aust NZ J Psychiatry* 2000, **34**(4):594–601.

38. MindMatters: **Evaluation consortium: MindMatters: a mental health promotion resource for secondary schools.** In *Report of the MindMatters (National Mental Health in Schools Project) Evaluation Project. Volume 1–4.* Newcastle, Australia: Hunter Institute of Mental Health; 2000.

39. **Resourceful adolescent program.** [http://www.rap.qut.edu.au/]

40. Hodgson R, Abbasi T, Clarkson J: **Effective mental health promotion: a literature review.** *Health Educ J* 1996, **55**(1):55–74.

41. Bond L, Glover S, Godfrey C, Butler H, Patton GC: **Building capacity for system-level change in schools: lessons from the gatehouse project.** *Health Educ Behav* 2001, **28**:368–383.

42. MindMatters: *Whole School Matters – Draft Manuscript.* Canberra, Australia; 2010.

43. Orygen Youth Health Research Centre: *Mental Health First Aid.* Melbourne, Australia: Orygen Youth Health; 2011.

44. **SenseAbility communications portal.** [http://www.beyondblue.org.au/resources/schools-and-universities/secondary-schools-and-tertiary/senseability]

45. **Rock and Water Program: psycho-physical social competency training.** [http://www.rockandwaterprogram.com/]

46. **Rock and water.** [http://www.newcastle.edu.au/research-and-innovation/centre/fac/workshops/rock-and-water]

47. Goodman R: **The Strengths and Difficulties Questionnaire: a research note.** *J Child Psychol Psychiatry* 1997, **38**(5):581–586.

48. Goodman R, Meltzer H, Bailey V: **The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version.** *Eur Child Adolesc Psychiatry* 1998, **7**(3):125–130.

49. Muris P, Meesters C, van den Berg F: **The Strengths and Difficulties Questionnaire (SDQ): further evidence for its reliability and validity in a community sample of Dutch children and adolescents.** *Eur Child Adolesc Psychiatry* 2003, **12**:1–8.

50. Goodman R: **Psychometric properties of the Strengths and Difficulties Questionnaire.** *J Am Acad Child Adolesc Psychiatry* 2001, **40**(11):1337–1345.

51. Goodman A, Goodman R: **Strengths and Difficulties Questionnaire as a dimensional measure of child mental health.** *J Am Acad Child Adolesc Psychiatry* 2009, **48**(4):400–403.

52. California Department of Education: **California Healthy Kids Survey.** In *Resilience & Youth Development Module: Supplement 1.* California, USA: California Department of Education; 2013.

53. **California Healthy Kids Survey.** [http://chks.wested.org/]

54. Windle G, Bennett KM, Noyes J: **A methodological review of resilience measurement scales.** *Health Qual Life Outcomes* 2011, **9**(8):1–18.

55. Mellor D: **Normative data for the Strengths and Difficulties Questionnaire in Australia.** *Aust Psychol* 2005, **40**(3):215–222.

56. Salzer S, Cropp C, Jaeger U, Masuhr O, Streeck-Fischer A: **Psychodynamic therapy for adolescents suffering from co-morbid disorders of conduct**

and emotions in an in-patient setting: a randomized controlled trial. *Psychol Med* 2014, **44**(10):2213–2222.

57. Mathai J, Anderson P, Bourne A: **Use of the Strengths and Difficulties Questionnaire as an outcome measure in a child and adolescent mental health service.** *Australasian Psychiatry* 2003, **11**(3):334–337.

58. **SDQ: normative school-age SDQ data from Britain.** [http://www.sdqinfo.org/UKSchoolNorm.html]

59. Chisholm KE, Patterson P, Torgerson C, Turner E, Birchwood M: **A randomised controlled feasibility trial for an educational school-based mental health intervention: study protocol.** *BMC Psychiatry* 2012, **12**:23–29.

60. **Database of intra-correlation coefficients.** [www.abdn.ac.uk/hsru/research/research-tools/study-design]

61. Coombs T: *Australian Mental Health Outcomes and Classification Network: Strengths and Difficulties Questionnaire: Training Manual.* Parramatta, NSW, Australia: NSW Institute of Psychiatry and Australian Mental Health Outcomes and Classification Network; 2005.

62. Hedeker D, Gibbons RD: **Application of random-effects pattern-mixture models for missing data in longitudinal studies.** *Psychol Methods* 1997, **2**(1):64–78.

63. SAS Institute Inc: *SAS Software Version 9.3 for Windows.* Carry, NC, USA: SAS Institute Inc; 2011.

64. Luthar SS, Cicchetti D: **The construct of resilience: implications for interventions and social policies.** *Dev Psychopathol* 2000, **12**(4):857–885.

EFFECTIVENESS OF A SCHOOL-BASED UNIVERSAL INTERVENTION TARGETING STUDENT RESILIENCE PROTECTIVE FACTORS IN REDUCING MENTAL HEALTH PROBLEMS IN ADOLESCENTS

CHAPTER 6

Effectiveness of a pragmatic school-based universal intervention targeting student resilience protective factors in reducing mental health problems in adolescents

Julia Dray [a, c, d, *], Jenny Bowman [a, d], Elizabeth Campbell [b, c, d], Megan Freund [b, d], Rebecca Hodder [b, c, d], Luke Wolfenden [b, c, d], Jody Richards [a], Catherine Leane [c], Sue Green [c, d], Christophe Lecathelinais [b, c], Christopher Oldmeadow [b, d], John Attia [b, d], Karen Gillham [c, d], John Wiggers [b, c, d]

[a] Faculty of Science and IT, School of Psychology, University of Newcastle, Callaghan, NSW 2308, Australia
[b] Faculty of Health and Medicine, School of Medicine and Public Health, University of Newcastle, Callaghan, NSW 2308, Australia
[c] Hunter New England Population Health Research Group, Hunter New England Local Health District, Wallsend, NSW 2287, Australia
[d] Hunter Medical Research Institute, New Lambton Heights, NSW 2310, Australia

ABSTRACT

Worldwide, 10–20% of adolescents experience mental health problems. Strategies aimed at strengthening resilience protective factors provide a potential approach for reducing mental health problems in adolescents. This study evaluated the effectiveness of a universal, school-based intervention targeting resilience protective factors in reducing mental health problems in adolescents. A cluster randomised controlled trial was conducted in 20 intervention and 12 control secondary schools located in socio-economically disadvantaged areas of NSW, Australia. Data were collected from 3115 students at baseline (Grade 7, 2011), of whom 2149 provided data at follow up (Grade 10, 2014; enrolments in Grades 7 to 10 typically aged 12–16 years; 50% male; 69.0% retention). There were no significant differences between groups at follow-up for three mental health outcomes: total SDQ, internalising problems, and prosocial behaviour. A small statistically significant difference in favour of the control group was found for externalising problems. Findings highlight the continued difficulties in developing effective, school-based prevention programs for mental health problems in adolescents.

Trial registration: ANZCTR (Ref no: ACTRN12611000606987).

Effectiveness of a school-based universal intervention targeting student resilience protective factors in reducing mental health problems in adolescents.

Worldwide, the reported prevalence of mental health problems in adolescents is typically between 10 and 20% (Kieling et al., 2011). Adolescence, commonly defined as the second decade of life (10–19 years) (World Health Organisation,

* Corresponding author. School of Psychology, University of Newcastle, University Drive, Callaghan, NSW 2308, Australia.
E-mail address: Julia.Dray@hnehealth.nsw.gov.au (J. Dray).

2014), is a time of extensive physical and social development, during which capabilities vital for successful progression into adulthood are established (Blakemore & Mills, 2014). Additionally, adolescence traverses the age range of onset for most mental health disorders that are likely to persist into adulthood (Kessler et al., 2005; Patel, Flisher, Hetrick, & McGorry, 2007). Mental health problems negatively impact young people both during adolescence and into adulthood. Such negative impacts include emotional distress, lower educational achievements, higher likelihood of engagement in health risk behaviours and higher rates of self-harm and suicide (Fergusson & Woodward, 2002). As such, improving mental health in adolescents is a recognised health imperative internationally (Buckley et al., 2011).

Previous research has suggested that an approach that strengthens protective factors, often termed building 'resilience'(Minnard, 2002), may reduce mental health problems in adolescents (Davydov, Stewart, Ritchie, & Chaudieu, 2010; Luthar, Cicchetti, & Becker, 2000). Protective factors for resilience include both internal factors (e.g. self-efficacy, effective problem solving); and external factors within the wider social environment (e.g. meaningful participation within home, school or community environments) (Cowen et al., 1996; Fergus & Zimmerman, 2005; Lee & Stewart, 2013; Sun & Stewart, 2010). Theoretical models of resilience are centrally concerned with positive adaptation and are commonly based on the premise that protective factors act as moderators that reduce the impact of deleterious factors such as risk factors or adversity, reducing the impact of negative outcomes (such as prevalence of mental health problems), and promoting positive outcomes (such as positive mental health)(Fergus & Zimmerman, 2005; Friedli, 2009). This suggestion is supported by results of previous research, which has found high levels of protective factors to be associated with lower levels of mental health problems such as anxiety, depression, stress and obsessive-compulsive disorder in adolescents (Bond, Toumbourou, Thomas, Catalano, & Patton, 2005; Hjemdal, Friborg, Stiles, Rosenvinge, & Martinussen, 2006; Hjemdal, Vogel, Solem, Hagen, & Stiles, 2011).

As schools provide access to adolescents for prolonged periods and promote student development and wellbeing (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009), they represent an opportune setting for interventions targeting resilience protective factors as a means of preventing adolescent mental health problems (Brooks, 2006; Greenberg, Domitrovich, & Bumbarger, 2001). Universal school-based interventions - those that target whole populations or groups of students not identified as having, or being at-risk of, mental health problems (Weisz, Sandler, Durlak, & Anton, 2005) - have been recommended and are widely implemented for the promotion of mental health in young people (O'Mara & Lind, 2013).

In recent decades, many school-based randomised controlled trials have investigated the effect of universal interventions targeting multiple internal and or external resilience protective factors on mental health outcomes in adolescents. The large majority of such trials have measured the effect of interventions on internalising problems including anxiety, depression and composite scores of internalising symptoms, with many indicating significant positive results on at least one outcome (e.g. Calear, Christensen, Mackinnon, Griffiths, & O'Kearney, 2009; Cardemil, Reivich, Beevers, Seligman, & James, 2007; Chaplin et al., 2006; Gillham et al., 2007; Horowitz, Garber, Ciesla, Young, & Mufson, 2007; Leventhal et al., 2015; Lock & Barrett, 2003; Merry, McDowell, Wild, Bir, & Cunliffe, 2004; Rivet-Duval, Heriot, & Hunt, 2011; Rodgers & Dunsmuir, 2015; Rose, Hawes, & Hunt, 2014; Ruini et al., 2009; Tomba et al., 2010), and others reporting no significant effect (e.g. Araya et al., 2013; Bond, Patton, & Glover, 2004; Burckhardt et al., 2015; Buttigieg et al., 2015; Kindt, Kleinjan, Janssens, & Scholte, 2014; Patton et al., 2006; Perry et al., 2014; Possel, Horn, Groen, & Hautzinger, 2004; Sawyer et al., 2010). Fewer reported studies have measured the effect of such an intervention on externalising problems such as hyperactivity, conduct problems and total difficulties (Fitzpatrick et al., 2009, 2013) or composite scores of externalising problems (Cutuli et al., 2013; Lowry-Webster, Barrett, & Lock, 2003; Petersen, Leffert, Graham, Alwin, & Ding, 1997; Pössel, Seemann, & Hautzinger, 2008; Roberts et al., 2010), with the large majority reporting significant positive results on at least one outcome (Cutuli et al., 2013; Fitzpatrick et al., 2013; Lowry-Webster et al., 2003; Petersen et al., 1997; Pössel et al., 2008; Roberts et al., 2010).

Further, despite evidence that internalising and externalising problems differ by gender in adolescents (Dray et al., 2016; Lawrence et al., 2015; Mellor, 2005; Muris, Meesters, & van den Berg, 2003; Rescorla et al., 2007), trials that have assessed the effect of protective factor interventions by gender have variably reported either differential effect by gender on at least one outcome (Calear et al., 2009; Lock & Barrett, 2003; Petersen et al., 1997; Pössel et al., 2008) or no differential effects (Araya et al., 2013; Buttigieg et al., 2015; Chaplin et al., 2006; Horowitz et al., 2007; Kindt et al., 2014; Merry et al., 2004; Roberts et al., 2010; Sawyer et al., 2010; Tak, Lichtwarck-Aschoff, Gillham, Van Zundert, & Engels, 2016; Tomba et al., 2010; Trudeau, Spoth, Randall, & Azevedo, 2007).

Additionally, the large majority of trials that have assessed the effect of universal, school-based protective factor interventions on mental health outcomes in adolescents have included implementation of a manualised resilience-focussed program into the school curriculum. Whilst such an approach lends itself to evaluation of intervention efficacy under tightly controlled research conditions, a key area of challenge to policymakers is the availability of evidence regarding the effectiveness of programs when delivered by schools in a manner that is tailored to their local circumstances (Wolpert et al., 2015). Related reviews of challenges in implementation science note: the need for further research adopting approaches that combine the use of high quality study designs with intervention designs that are tailored to reflect local and real-world operational environments such as schools; aid community capacity to implement and sustain complex programs; and support local ownership of such approaches (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004; McCall, 2009).

Pragmatic intervention trials — defined as research trials designed to test the effectiveness of an approach in 'real world' conditions (Thorpe et al., 2009) - typically adopt an approach that gives flexibility to participants to select elements of care or programs to implement which best meet their individual or local needs (Hawkins, Oesterle, Brown, Abbott, & Catalano, 2014; Spoth & Greenberg, 2005; Thorpe et al., 2009; Wolpert et al., 2015). For example, Promoting School-Community-University

Partnerships to Enhance Resilience (PROSPER) is a delivery system utilising a community-university partnership model to foster the uptake and implementation of locally selected evidence-based programs relating to internal and external protective factors in adolescents (Spoth et al., 2015). Evaluations of the PROSPER trial indicate significant positive intervention effects for substance use outcomes (such as tobacco, alcohol and illicit substance initiation and use)(Spoth et al., 2007, 2013), conduct problems (Spoth et al., 2015), and a range of outcomes related to internal and external protective factors (such as problem solving, parent-child attachment and family environment)(Redmond et al., 2009; Spoth & Greenberg, 2005). No further mental health problem outcomes (e.g. internalising problems or total difficulties) were assessed across the PROSPER trials.

To address limitations of past studies, the present study was conducted to evaluate the effectiveness of a universal, school-based, pragmatic intervention targeting resilience protective factors in reducing four mental health problem outcomes (total SDQ; internalising problems; externalising problems; and prosocial behaviour) in adolescents. The secondary study aim was to evaluate the effectiveness of the intervention in improving internal and external resilience protective factors, and to investigate differential intervention effects by gender and baseline mental health problem levels for primary outcomes. In addition to student outcome data, process data to describe the extent of intervention implementation were collected and results of this are described.

Methods

Study design, setting and sample

A cluster randomised controlled trial, was conducted in 32 secondary schools within the Hunter New England region of New South Wales (NSW), Australia. The study was approved by relevant ethics committees (HNEH: Ref no. 09/11/18/4.01; UoN: Ref no. H-2010-0029; and the AHMRC: Ref no. 776/11) and prospectively registered (ANZCTR: Ref no. ACTRN12611000606987). Full details of the trial methodology have been described elsewhere (Dray et al., 2014).

Secondary schools

School eligibility criteria were: at least 400 student enrolments (Grades 7 to 12); enrolments in Grades 7 to 10 (typically aged 12—16 years); and located within a socio-economically disadvantaged Local Government Area (LGA; school postcode in a LGA with a score of <1000 using the Socio-Economic Indexes for Areas (SEIFA)) (Trewin, 2003). A national database of Australian schools (Australian Curriculum Assessment and Reporting Authority, 2010) was used to identify 172 Government and Catholic secondary schools in the study area, of which 47 met the eligibility criteria. The 47 eligible schools were ordered by an independent statistician using a random number function, and approached in that order until 32 consented.

Randomisation of schools

Consenting schools were stratified by school size (medium-size 400 to 800 students, or large schools >800) and by engagement in a national government funding initiative directed at schools in disadvantaged areas (yes/no) (NSW Department of Education and Communities, 2011). Schools were then randomised in Microsoft Excel using a random number function in a 20:12 block design ratio (20 intervention; 12 control) prior to baseline data collection. Schools, enrolled students and parents of students were not blind to treatment allocation.

Student sample

Students were eligible to participate if they were in Grade 7 (first year of secondary school) in 2011. Signed parental consent for student participation was obtained through mailing of study information packs and consent forms. Student outcome assessments were undertaken via online surveys conducted during class time, with students in Grade 7 at baseline (August to November 2011) and in Grade 10 at follow-up (July to November 2014).

School staff

Selected staff from each participating school (deputy principal, head teachers for student welfare and five key subject areas, and the Aboriginal Education Coordinator or other nominated Aboriginal staff member) were invited to complete a survey at follow-up.

Intervention

An intervention was developed to increase the provision of universal strategies targeting multiple internal and external resilience protective factors in intervention schools during Grades 8 to 10, from 2012 to 2014. The intervention involved a framework of sixteen intervention strategies across the three Health Promoting Schools domains (World Health Organisation, 1991) (see Table 1). Each strategy was designed to address one or more internal (cooperation/communication, empathy, goals/aspirations, problem solving, self-awareness, self-efficacy) or external resilience protective factor (school support, school meaningful participation, peer caring relationships). A pragmatic intervention approach was used (Thorpe et al., 2009). Intervention schools were asked to meet the same prescribed set of strategies in Table 1, however schools were given the flexibility to select which specific programs or resources to implement to address each of the strategies. Additionally, the order and manner by which these were implemented within each intervention school varied to align to the context and needs

Table 1
Intervention strategies and implementation support strategies.

Intervention strategies by Health Promoting Schools Domain

Curriculum, teaching and learning

1. Age-appropriate lessons (9 h) on protective factors across a minimum of three of the following key learning area's (KLAs): English; Math; Science; History and Geography, and/or; Personal Development, Health and Physical Education (PDHPE) (Board of Studies Teaching and Educational Standards NSW, 2016). For example, MindMatters (MindMatters, 2000; Wyn et al., 2000) or school-developed curriculum resources [a,c]
2. Non-curriculum programs (9 h) targeting protective factors outside the classroom (e.g. the Resourceful Adolescent Program (Queensland University of Technology, 2013)) [a,b]
3. Additional program targeting protective factors for Aboriginal students [a,b,c]

Ethos and Environment

4. Rewards and recognition programs [a,b]
5. Peer support or peer mentoring programs [a,b]
6. Anti-bullying programs [a,b]
7. Empowerment/leadership programs [a,b]
8. Additional empowerment/leadership/mentoring programs for Aboriginal students [a,b,c]
9. Aboriginal cultural awareness strategies [a,b,c]

Partnerships and Services

10. Promotion and engagement of local community organisations, groups and clubs in the school (e.g. charity organisations) [a,c]
11. Additional or enhanced consultation activities with Aboriginal community groups [a,b,f]
12. Promotion and engagement of health, community and youth services in the school [a,b,c]
13. Additional or enhanced Aboriginal community organisations promoted or engaged [a,b,f]
14. Referral pathways to health, community and youth services developed and promoted [a,b,c]
15. Strategies to increase parental involvement in school (e.g. school events, and effective parent communication strategies) [b,c]
16. Information regarding student protective factors provided to parents via school newsletter.[a,b,c]

Implementation support strategies

1. Engagement with school community including presentations at school staff meetings regarding planned intervention [d]
2. Embedded support staff:

   ○ School intervention officer one day a week to support program implementation

   ○ Project coordinator to liaise with school sectors and support school intervention officers [e]
3. School intervention team formed (new team or re-alignment of existing team, inclusive of school intervention officer and school executive member) to implement intervention
4. Structured planning process to prioritize and select appropriate resources/programs:

   ○ Needs assessment of student protective factors (when study sample in Grade 7)

   ○ Two school community planning workshops and one strategy review workshop [e]

   ○ School plan to address intervention strategies endorsed by the school executive
5. Intervention implementation guide that described the intervention, planning process, available resources and programs, tools and templates for intervention implementation.
6. Staff mental health training (minimum of 1 h per school during staff meetings)
7. AUD $2000 per year each for:
   o Teacher release time for intervention implementation or professional development
   o Strategies specifically for Aboriginal students [c]
8. Feedback reports regarding student substance use, protective factors (following baseline and Grade 9) and intervention implementation (termly) [e]
9. An Aboriginal Cultural Steering Group was formed comprising of Aboriginal staff from local Aboriginal community organisations and Government Departments to provide Aboriginal cultural advice and direction regarding the study design, implementation, evaluation and dissemination

---

NB. Following publication of the trial protocols (Dray et al., 2014; Hodder et al., 2012) and based upon advice received from Aboriginal Cultural Steering Group intervention strategies 3,8,11,13 were added.

[a] To target internal protective factors.
[b] To target external protective factors.
[c] Implemented in Years 2 and 3 only.
[d] Year 1 only.
[e] Years 1 and 2 only.
[f] Year 3 only.

of each school community. A stepped approach was used whereby the number of strategies to implement in each school year increased starting at two strategies in 2012; 14 in 2013; and 16 in 2014 (Table 1).

Curriculum, teaching and learning strategies focussed on the provision of resilience-focussed content inside and outside the classroom. Schools were required to implement 9 h of resilience-focussed content in a minimum of three of the following key learning area's (KLAs): English; Math; Science; History and Geography, or; Personal Development, Health and Physical Education (PDHPE) (Board of Studies Teaching and Educational Standards NSW, 2016). Head teachers of each subject area reviewed the existing programmed curriculum content and embedded content targeting resilience protective factors where it was contextually relevant. In addition, schools were required to embed a further 9 h of content targeting resilience protective factors into school activities (e.g. school assemblies, camps, welfare days). Intervention school teachers were provided with a one-day MindMatters training workshop in promoting the development of social and emotional skills during lessons and

improving student engagement in learning, as well as hard copies of MindMatters (BeyondBlue and the Department of Health of the Australian Government, 2016) and SenseAbility Resource Kits (BeyondBlue, 2016). To monitor the implementation of resilience-focussed content, copies of related learning units or activities, inclusive of details regarding time to complete units or activities, were obtained from teachers by each assigned intervention support officer, and collated by a member of the research team.

Based on a need suggested by previous evaluations of school-based interventions (Bond, Glover, Godfrey, Butler, & Patton, 2001; Hodgson, Abbasi, & Clarkson, 1996; MindMatters, 2000; Wyn, Cahill, Holdsworth, Rowling, & Carson, 2000), schools were provided with intervention implementation support including an embedded school intervention officer (Table 1). School intervention officers had a graduate or masters level qualification in a health, psychology or education related degree, or experience in a school setting. Aspects of the role of the school intervention officers included providing ongoing monitoring of implementation and performance feedback to schools. Additionally, to encourage ownership and leadership in the implementation of the intervention within schools, a school core team was established (Wyn et al., 2000). In each intervention school, core team members included the allocated school intervention officer, student leaders, school staff including the school liaison officer and a minimum of one executive school staff member (e.g. principal, deputy principal and/or head of faculty). School core teams held regular meetings (on average twice per school Term; 4 Terms per year) during which they received proactive support from the allocated school intervention officer to: audit school implementation progress and current challenges within their school community, and; develop annual action plans for implementation of locally chosen program content or strategies that were tailored to their school community and that addressed each of the prescribed intervention strategies. A standard agenda was available to schools for core team meetings, and school intervention officers facilitated team meetings. Additionally school intervention officers and intervention school staff were provided with opportunities to complete courses in Mental Health First Aid (Mental Health First Aid, 2016) or MindMatters (BeyondBlue and the Department of Health of the Australian Government, 2016).

Control group

Control schools implemented usual curricula and were not provided intervention resources or support, with the exception of a report of student resilience protective factor results following the baseline survey. In New South Wales, Australia, usual curricula in high school involves a minimal set of key learning areas: Math; English; Science; Personal Development, Health and Physical Education (PDHPE); and Geography and History (Board of Studies Teaching and Educational Standards NSW, 2016).

Measures

Student characteristics

The survey contained self-report items relating to student age, gender, Aboriginal and/or Torres Strait Islander status, ethnicity, non-English speaking background and residential postcode.

Primary outcome: mental health problems

Mental health problems were measured using the youth self-report version of the Strengths and Difficulties Questionnaire (SDQ) (R. Goodman, 1997; R. Goodman, Meltzer, & Bailey, 1998) total difficulties score (total SDQ), and scores of the three SDQ subscales (A. Goodman & Goodman, 2009; A. Goodman, Lamping, & Ploubidis, 2010): internalising problems, externalising problems, and pro-social behaviour (4 primary outcomes). Student scores from the individual items within each of the three SDQ subscales were summed to calculate a score for each subscale. The internalising and externalising problem scores had a possible range of 0–20, and the prosocial behaviour score a possible range of 0–10. The internalising and externalising problems scores were summed to determine a total difficulties score (total SDQ: range 0–40).

Secondary outcomes: student internal and external protective factors

Student internal and external resilience protective factors (also termed 'internal and environmental resilience assets', Hanson & Kim, 2007) were measured using the Resilience and Youth Development Module of the California Healthy Kids Survey (California Department of Education, 2013; WestEd, 2013). Items for the six internal and three of the eight external protective factor subscales were selected for analysis as they were most congruent with the intervention content (Supplementary Table 1). Response options for the survey items were '1: Never true', '2: True some of the time', '3: True most of the time', and '4: True all of the time'. Scores for student protective factor subscales were calculated by summing item responses within each subscale. Scores from each of the internal subscales were then averaged to calculate an aggregate internal protective factor score, and likewise to calculate an aggregate external protective factor score.

As well as collecting data on mental health problems and internal and external protective factors, the survey included items regarding adolescent health behaviours such as substance use, physical activity, sexual health (Grade 10 students only), and bullying. The trial findings regarding these outcomes are reported separately.

Implementation of strategies targeting protective factors

School intervention support officers reviewed school documents and recorded delivery of intervention strategies in intervention schools on a monthly basis. Telephone-based structured interviews regarding implementation of resilience protective factor strategies during the final year of the intervention were conducted at follow-up with selected staff from both intervention and control schools, through an external contracted research agency. School staff from intervention schools were also asked about their level of engagement with the intervention in the final year.

Sample size

Based on participation rates of approximately 80% in previous research (Hodder et al., 2011; Patton et al., 2006), and an anticipated 25% attrition rate from baseline (Grade 7, 2011) to follow-up (Grade 10, 2014), it was estimated that a sample of 1360 Grade 7 and 1020 Grade 10 students in the control group, and 2270 Grade 7 and 1700 Grade 10 students in the intervention group, with a cluster size of approximately 85 students per school could be achieved. Accounting for a one-unit increase in total SDQ scores for control students (based on Australian norms indicating approximately a one-unit increase in score with age) (Mellor, 2005), 80% power, a significance level of 5%, and an intra-cluster correlation coefficient of 0.037 (Aberdeen University: Health Services Research Unit, 2011; Chisholm, Patterson, Torgerson, Turner, & Birchwood, 2012), it was expected that a conservative estimate of a two-point reduction in total SDQ scores for intervention group students would be detectable (Mathai, Anderson, & Bourne, 2003).

Statistical analysis

All analyses were conducted using SAS Version 9.4 (SAS Institute Inc., 2013) and assumed a statistical significance level of $p \leq 0.05$.

Student characteristics

Descriptive statistics were employed to examine consent, participation and attrition rates, and student demographic characteristics. Socio-economic status (Trewin, 2003) and remoteness of residential location (Department of Health and Aged Care, 2001) were calculated from student reported residential postcode. Logistic regression analyses within a generalised estimating equation framework were used to compare students who completed both the baseline and follow-up surveys, and students lost at follow up, on baseline demographic characteristics (gender, Aboriginal and/or Torres Strait Islander status, socio-economic disadvantage, and remoteness of residential location), four SDQ scores, and internal and external resilience protective factor scores.

Mental health problems

The analysis was conducted on the cohort of students that participated in both baseline and follow-up surveys and who answered all 25 SDQ items at follow-up. All four primary outcomes were treated as continuous variables, with comparisons between intervention and control students at follow-up undertaken using separate linear mixed models. The models included a fixed effect for treatment group (intervention vs. control), a random effect for school to account for clustering of responses within schools, and fixed effects for prognostic variables (age, gender, school size, school type, Aboriginal status, remoteness of residential location, socio-economic status, ethnicity, and non-English speaking background). The adjusted difference between treatment groups for the mean of each outcome are presented with 95% Wald confidence intervals. P-values for the difference between intervention and control schools on each outcome were derived from Wald tests. Intra-class correlations are also presented as the between-school random effect variance divided by the total variance.

Additionally, a sensitivity analysis was undertaken for all primary outcomes using intention-to-treat (ITT) principles, whereby multiple imputation was used to assess sensitivity of the results to missing data under the missing at random (MAR) assumption for students that were lost to follow-up or moved between intervention and control schools. The method of chained regression equations was used, imputing 10 data sets separately for each follow-up SDQ score by treatment status, and pooling the results using Rubin's method (Rubin, 1987). The multiple imputation analysis was also adjusted for prognostic variables (previously listed above).

Subgroup analyses

Exploratory analyses, specified a priori (Dray et al., 2014) were undertaken to assess differential intervention effect on the primary outcomes for gender subgroups. An interaction term (treatment x gender) was added to the above estimated regression models. Additional post hoc analyses were conducted to further explore differential effect of intervention by baseline level of mental health problems. An interaction term (treatment x baseline SDQ level) was added to the above estimated regression models. For this analysis, baseline SDQ scores were treated as categorical (see Supplementary Table 2 for cut points utilised).

Student internal and external protective factors

To assess impact of the intervention on student resilience protective factor scores, comparisons between groups at follow-up were undertaken using linear mixed models. The models included a fixed effect for treatment group (intervention vs. control), and a random effect for school to account for clustering of responses within schools. Models were adjusted for the prognostic variables (as per primary outcome analysis).

Implementation of strategies targeting protective factors

Descriptive statistics were used to summarise the extent of intervention strategy implementation in intervention schools for each intervention year according to project records. Chi-square and *t*-test analyses were used to assess difference between intervention and control schools in the delivery of strategies in the third year of intervention. Response options for intervention school engagement in the final year of the intervention were dichotomised (moderately/very or unsure/not at all/somewhat).

Results

Sample

Forty-four of the 47 eligible schools were approached to provide the quota of 32 schools (28 government, 4 Catholic; 21 medium size, 11 large size; 73% school consent rate). No schools withdrew from the study following allocation (see Fig. 1). Parental consent was obtained for 3530 Grade 7 students (76.9% of enrolled students), of whom 3115 participated in the student survey at baseline (88.2% of students with parental consent; 67.9% of the total enrolled student population). Follow-up data were collected from 2149 of the students who completed the baseline survey (retention rate of 69.0%; intervention 67.3%, control 71.6%) with no differential loss to follow-up between intervention and control groups ($p = 0.1$). Reasons for lost to follow-up were: students no longer attending school (n = 652); absent from school on follow-up survey days (n = 207), or; unknown reason for currently enrolled students (n = 137). Students who did not complete all 25 SDQ items at follow-up (n = 14) or moved between schools during the intervention period (n = 30) were excluded from the analyses, resulting in a cohort of 2105 students for analysis. All 3115 students who completed the baseline survey were included in the intention-to-treat sensitivity analyses.

Baseline characteristics of students who completed the baseline student survey are presented in Table 2. Students lost to follow-up compared to students who remained in the cohort (completed both baseline and follow-up data collection) were significantly more likely to have a higher mean total SDQ score (14.9 vs. cohort: 12.2, $p < 0.0001$), externalising problems score (8.4 vs. cohort: 6.8, $p < 0.0001$), and internalising problems score (6.5 vs cohort: 5.4, $p < 0.0001$); a lower mean prosocial behaviour score (7.1 vs. cohort: 7.4, $p < 0.01$ respectively); and to have lower mean scores for internal (2.9 vs. 3.1, $p < 0.0001$) and external (2.9 vs. 3.0, $p < 0.0001$) resilience protective factors at baseline. Students who were lost to follow up were also more likely to be Aboriginal and/or Torres Strait Islander (18.06% compared to 10.18% respectively, $p < 0.0001$).

Mental health problems

Mean scores and standard deviations for the total SDQ and each of the three subscales at follow-up are displayed in Table 3 by treatment group. There was no significant difference between intervention and control groups for the outcomes of total SDQ, internalising problems and prosocial behaviour. There was a significant difference for the outcome of externalising problems in favour of the control group, though the magnitude of effect was small ($\beta = 0.43$, 95% CI: 0.04 to 0.83, $p = 0.02$). This pattern of results remained unchanged for the intention-to-treat sensitivity analysis (Table 3).

Subgroup analyses

There was no differential effect by gender for any of the primary outcome measures (Supplementary Table 3). Subgroup analyses showed differential effect in favour of the control group for students with very high scores at baseline for total SDQ ($\beta = 2.62$, 95% CI: 0.85 to 4.39, $p = 0.02$), and externalising problems ($\beta = 4.79$, 95% CI: 2.41 to 7.16, $p = 0.003$) only (Supplementary Table 4).

Student internal and external protective factors

There was no significant difference between intervention and control students for mean student internal and external resilience protective factor scores (Table 3).

Intervention strategy implementation

A total of 232 of the 256 school staff identified by school principals completed the telephone survey (91%). In each individual year of the intervention, 18 or 19 of 20 intervention schools were recorded to have implemented programs or resources in each strategy area relevant to that year. Project records demonstrated that 12 of 20 intervention schools
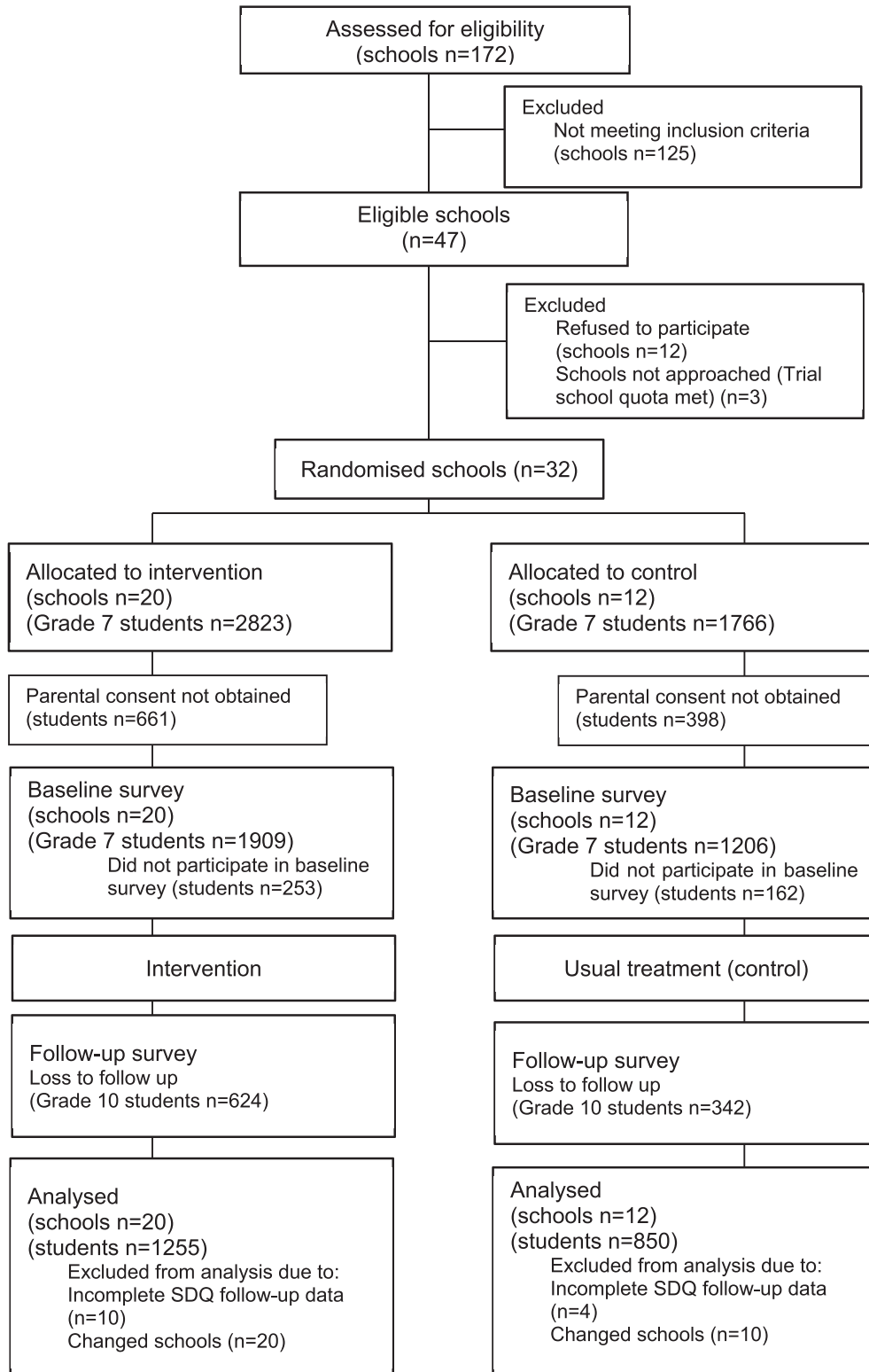
Fig. 1. Study flow diagram.

Table 2
Descriptive statistics of baseline survey participant characteristics by treatment group (N = 3115).

Variable	Control (N = 1206)	Intervention (N = 1909)
	n(%)	n (%)
Total students		
Gender		
Male	607 (50)	950 (50)
Female	599 (50)	959 (50)
Age		
12 and younger	471 (39)	804 (42)
13	714 (59)	1079 (57)
14 or older	21 (2)	26 (1)
Aboriginality		
Aboriginal and/or Torres Strait Islander[a]	151 (13)	245 (13)
Socio-economic Disadvantage (SEIFA)[b]		
Low < 990 (most disadvantaged)	716 (59)	1056 (55)
High ≥990 (least disadvantaged)	488 (41)	847 (45)
Remoteness (ARIA)[c]		
Major Cities Australia	703 (58)	809 (43)
Inner Regional Australia	370 (31)	921 (48)
Outer Regional/Remote	132 (11)	174 (9)
School size		
Medium	549 (46)	988 (52)
Large	657 (54)	921 (48)
Ethnicity		
Other ethnic, cultural or national origin	95 (8)	235(12)
Non-English speaking background		
Speak language other than English	57 (5)	119 (6)
Mental health problems[d]	Mean (SD)	Mean (SD)
Total SDQ	12.4 (6.3)	13.5 (6.6)
Internalising SDQ	5.4 (3.5)	6.0 (3.7)
Externalising SDQ	6.9 (3.9)	7.5 (4.0)
Prosocial behaviour	7.3 (1.9)	7.2 (2.0)
Protective factor score		
Internal[e]	3.0 (0.5)	3.0 (0.5)
External[f]	3.0 (0.5)	2.9 (0.6)

  [a] N = 3111, missing for 4 students.
  [b] N = 3107, SES could not be calculated for 8 students.
  [c] N = 3109, remoteness could not be calculated for 6 students.
  [d] N = 2433 (control N = 943; intervention N = 1490). A reduced number of students completed the SDQ at baseline due to a delay in receiving required approvals for administration of this measure.
  [e] 17 missing due to non-completion.
  [f] 26 missing due to non-completion.

Table 3
Adjusted intervention vs. control group outcomes at follow-up.

Outcome	Control (N = 850)	Intervention (N = 1255)	Intervention vs. Control (Matched Cohort N = 2096)[a]		Intervention vs. Control (ITT Population N = 3115)		ICC
	Mean (SD)	Mean (SD)	Mean diff (95% CI)	p	Mean diff (95% CI)	p	
Primary outcomes							
Mental health problems							
Total SDQ	13.58 (6.49)	14.04 (6.80)	0.47 (−0.41, 1.35)	0.27	0.43 (−0.23, 1.08)	0.20	0.16
Internalising	6.74 (3.83)	6.88 (3.98)	0.05 (−0.54, 0.63)	0.87	0.10 (−0.37, 0.58)	0.66	0.09
Externalising	6.84 (3.68)	7.16 (3.91)	0.43 (0.04, 0.83)	0.02	0.42 (0.04, 0.80)	0.03	0.02
Prosocial behaviour	6.99 (2.03)	6.89 (2.10)	−0.08 (−0.35, 0.19)	0.53	−0.08 (−0.29, 0.12)	0.43	0.01
Secondary Outcomes							
Protective factor scores							
Internal	3.02 (0.48)	3.01 (0.49)	−0.01 (−0.07, 0.06)	0.81	–	–	0.001
External	2.93 (0.52)	2.92 (0.54)	−0.01 (−0.08, 0.07)	0.87	–	–	0.001

  [a] N = 2096 due to missing data.

implemented programs or resources to address each intervention strategy every year (see Supplementary Table 5 for examples of specific programs implemented). In the final year of the study, comparisons indicated that intervention schools were more likely than control schools to have included 9 h of resilience instruction across at least two school subjects in any Grade (intervention 88% vs. control 36%, p < 0.01), but not in Grade 10 (intervention 88% vs. control 55%, p = 0.08). A higher proportion of Head Teachers at intervention schools reported using resilience resources within the curriculum in any Grade

than control schools (75% and 49% respectively, p < 0.01), and the mean number of resilience resources used outside of the classroom was higher in intervention compared with control schools (3.1 and 1.2 respectively, p < 0.01). However, in relation to the remaining 15 strategies, there were no significant differences in delivery between intervention and control schools (see Table 4). Between 73% and 84% of intervention school staff reported being 'moderately' or 'very' engaged in the final year of the intervention (Aboriginal contact 73.7% (14/19); Deputy principal 84.2% (16/19); Head Teacher Welfare 83.3% (15/18); Head Teacher KLAs 76.4% (68/89)).

Discussion

This study assessed the effectiveness of a universal school-based intervention targeting protective factors for resilience in reducing mental health problems in secondary school students. At follow-up, no significant differences were found between intervention and control groups for three mental health outcomes: total SDQ, internalising problems and prosocial behaviour. A small statistically significant difference in favour of the control group was found for externalising problems. No differential intervention effect on mental health outcomes was found by gender or by baseline level of mental health problems. There was no intervention effect on internal or external protective factors.

The finding of no significant effect of the intervention on total SDQ, internalising problems, and prosocial behaviour is inconsistent with some previous studies of resilience protective factor interventions with similar mental health outcomes in adolescents (Fitzpatrick et al., 2009; Lowry-Webster et al., 2003; Trudeau et al., 2007), with other previous trials indicating a positive result for at least one of these outcomes at some follow-up points (Cutuli et al., 2013; Fitzpatrick et al., 2013; Roberts et al., 2010). Additionally, the present study found a small significant difference in favour of the control group for the outcome of externalising problems. This finding is inconsistent with the limited number of previous studies that have included a composite measure of externalising problems, all of which reported null effects for this outcome (Cutuli et al., 2013; Lowry-Webster et al., 2003; Pössel et al., 2008; Roberts et al., 2010). Such a result should be interpreted with caution due to the absence of a plausible mechanism for the resilience protective factor intervention to have a negative impact on student externalising problems. Additionally, due to the small magnitude of the effect ($\beta = 0.43$), the difference is unlikely to be clinically meaningful.

There is considerable variability in the literature with respect to results of studies that have included a measure of protective factors. Consistent with the present result, many previous studies have indicated no effect for measured protective factors (Araya et al., 2013; Bond et al., 2004; Fitzpatrick et al., 2009, 2013; Melnyk et al., 2013; Possel et al., 2004; Roberts et al., 2010; Sawyer et al., 2010; Tak, Kleinjan, Lichtwarck-Aschoff, & Engels, 2014). In contrast, a number of studies have reported improvement in protective factor outcomes however such a result does not appear to align clearly with improvement in mental health outcomes, with largely null (Buttigieg et al., 2015; Leventhal et al., 2015; Rivet-Duval et al., 2011; Rose et al., 2014) or mixed results (Cardemil et al., 2007; Lock & Barrett, 2003) for mental health outcomes in these studies. Such results raise questions regarding what is necessary to positively impact student protective factors. Related research highlights the development of protective factors and skills related to resilience as a time intense process, and suggests the potential of schools as platforms for the delivery of sustained efforts to support gains made in preventative efforts supporting resilience and mental health in young people (Cowen et al., 1996).

A number of possible explanatory factors pertaining to aspects of the intervention design may account for the null effect of the study. First, whilst pragmatic intervention approaches are conducive to developing scalable and sustainable intervention approaches, non-standard and inconsistent intervention strategy implementation may contribute to such approaches being ineffective (Roberts et al., 2010), and additionally makes exact replication of the intervention difficult. Additionally, in contrast to other past pragmatic intervention trials which have included only evidence-based programs for local selection (Hawkins et al., 2014; Spoth & Greenberg, 2005; Wolpert et al., 2015), in the present trial schools were provided with a range of programs and resources to implement to address each of the intervention strategies, not all of which had a strong evidence-base and this may have further limited effectiveness. Further, the study was implemented in the context of a positive education movement in Australia (Cahill, Beadle, Farrelly, Forster, & Smith, 2014; Centre for Education Statistics and Evaluation, 2015; Urbis, 2011; Victoria State Government, 2014) which included the development of a wellbeing framework for schools by the NSW Department of Education and Communities to underpin school actions, policies and outcomes (Centre for Education Statistics and Evaluation, 2015). Consequently, concepts such as student wellbeing, social and emotional competence, positive mental health, and resilience were likely of equal focus in control schools, and as such control schools may have implemented programs and resources similar to, or the same as, those promoted to the intervention schools. Such a possibility is supported by staff interview data collected at follow-up to measure school implementation of strategies targeting protective factors; a similar level of reported implementation of the broad intervention strategies was found in both intervention and control schools, with the exception of significantly greater implementation of resilience-focussed curriculum strategies in intervention schools.

Second, previous research has identified school, peer, individual, family and community factors as important to a range of health and behaviour outcomes during adolescent development, with factors in the family domain identified as most strongly associated with mental health outcomes such as depressive symptoms (Bond et al., 2005). Similarly, previous intervention trials of this nature have identified lack of content targeting family and parent components as a possible explanatory factor towards null intervention outcomes (Roberts et al., 2010). Whilst the present intervention employed strategies that targeted a range of individual protective factors, only three external protective factors relating to school rather than family or parents

Table 4
Intervention versus control group implementation of strategies targeting protective factor comparisons in final year of intervention.

Intervention strategies by Health Promoting Schools domain	Outcome definition	Intervention group N = 20% (n/N)	Control group N = 12% (n/N)	P value
Curriculum, teaching and learning				
1. Age-appropriate lessons on individual protective factors across school subjects	≥9hrs classroom resilience instruction across more than 1 KLA (Year 10)[a]	88.2 (15/17)	54.5 (6/11)	0.08
	≥9hrs classroom resilience instruction across more than 1 KLA (Year 7−10)[a]	88.2 (15/17)	36.4 (4/11)	0.01
	Head Teachers using any resilience resource in curriculum (including MindMatters and SenseAbility)[a]	75.3 (67/89)	49.1 (27/55)	0.002
	Head Teachers using MindMatters in curriculum[a]	42.7 (38/89)	30.9 (17/55)	0.20
	Head Teachers using SenseAbility in curriculum[a]	13.5 (12/89)	0 (0/55)	0.004
2. Non-curriculum programs targeting protective factors	≥9hrs non-classroom resilience instruction (Year 10)[b]	87.5 (14/16)	77.8 (7/9)	0.60
	At least one resilience program/resource used outside of curriculum[b]	88.9 (16/18)	81.8 (9/11)	0.60
	Most used resource: MindMatters[b]	61.1 (11/18)	18.2 (2/11)	0.05
	Number of programs used (Mean (SD)) (Intervention n = 18; control n = 11)[b]	3.1 (1.83)	1.2 (0.87)	0.004
3. Additional program targeting protective factors for Aboriginal students	≥9hrs non-classroom resilience instruction (Year 10 Aboriginal students)[c]	86.7 (13/15)	100.0 (5/5)	1.0
Ehtos and environment				
4. Rewards and recognition program	At least one whole school rewards/recognition program[d]	100.0 (19/19)	100 (10/10)	1.0
5. Peer support/peer mentoring programs	At least one peer support[d] (either peer support or buddy program/peer mentoring across all kids in any Year group)	77.8 (14/18)	90.9 (10/11)	0.62
6. Anti-bullying programs	At least one whole school anti-bullying initiative/program[d]	100.0 (19/19)	100 (10/10)	1.0
7. Empowerment/leadership programs	At least one peer leadership training or one program that students were active participants in all levels of planning and decision making across all kids in any Year group[d]	83.3 (15/18)	100 (11/11)	0.27
8. Additional empowerment/leadership/mentoring programs for Aboriginal students	At least one additional program (peer support, peer leadership, peer mentoring or program that students were active participants in all levels of planning and decision making across) in any Year group for Aboriginal students)[c]	89.5 (17/19)	70.0 (7/10)	0.31
9. Aboriginal cultural awareness strategies (Examples: Aboriginal cultural art project	At least one cultural awareness strategy for non-Aboriginal students/staff across whole school[c]	89.5 (17/19)	70.0 (7/10)	0.30
Partnerships and services				
10. Promotion/engagement of local community organisations/groups/clubs in school	Partnership[e] with at least 3 community organisations[b]	33.4 (6/18)	18.2 (2/11)	0.67
11. Additional/enhanced consultation activities with Aboriginal community groups	Consultation in the development/running of Aboriginal cultural awareness strategies for non-Aboriginal staff/students)[b]	16 (84.2)	6 (60.0)	0.19
12. Promotion/engagement of health, community and youth services in the school	Partnership[e] with at least one health/community services[b]	61.1 (11/18)	45.5 (5/11)	0.47
13. Additional/enhanced Aboriginal community organisations promoted or engaged	Partnership[e] with at least one Aboriginal local community organization[c]	36.8 (7/19)	20.0 (2/10)	0.4
14. Referral pathways to health, community and youth services developed and promoted	Promotion of any health or community services at school[b]	18 (100.0)	11 (100.0)	1.0
15. Strategies to increase parental involvement in school	Implementation of at least 1 parent engagement strategy[b]	94.4 (17/18)	100.0 (11/11)	1.0
16. Information regarding student protective factors provided to parents via school newsletter	Provided information to parents at least once a term regarding enhancing student resilience[d]	64.7 (11/17)	44.4 (4/10)	0.42

[a] Informants were Head Teachers from 5 Key Learning Areas (KLAs); English, Maths, PDHPE, Science, HSIE. Schools with data from Head Teachers from 2 or more KLAs were included (n = 17 intervention; n = 11 control).

[b] Informants were Head Teachers Welfare.

[c] Informants were designated Aboriginal contact persons for each school. For strategy 3, 9 respondents were excluded as they were unable to estimate hours.

[d] Informants were Deputy Principals.

[e] Key informants (Head Teacher Welfare for strategy 10 and 12, and Aboriginal contact person for strategy 13) were asked to nominate up to 5 active partnerships with organisations or services. They were asked whether or not each partnership had a range of characteristics including: a formal agreement on services provided, consistency of the partnership with aims of the School Plan, regular meetings to review and evaluate partnership, service specifically tailored to school community needs, multiyear endeavour.

were targeted (school support, meaningful school participation, and peer caring relationships). Finally, further potential reasons provided in previous studies may also explain the null effects of this trial including: difficulty in assessing effects in adolescence due to the large developmental change that occurs during the time of intervention implementation (Trudeau, Spoth, Randall, Mason, & Shin, 2012); and potential for protective factor interventions to be more effective if implemented earlier in childhood rather than adolescence (Lowry-Webster et al., 2003).

Strengths of the current study included the cluster randomised controlled trial study design, the large scope of implementation support strategies, the important focus on strengthening student resilience and reducing mental health problems in adolescents, and the large sample size. A common limitation of school-based research (Ellickson, Bianca, & Schoeff, 1988; Pirie et al., 1989), attrition was around 30% in the current study, with some differences between the students who did not complete the follow-up survey and those who did. These differences coupled with previous research suggesting that exclusive reliance on adolescent self-report may result in under-reporting of mental health problems (R. Goodman et al., 1998) raises concern that the prevalence of mental health problems may have been underestimated in the present study. In relation to the finding that significantly more Aboriginal students than non-Aboriginal students were lost to follow-up, lower rates of school retention and completion for Aboriginal students (Purdie & Buckley, 2010; Schwab, 1999) may have contributed to such differential attrition. Additionally, the present intervention was designed for universal implementation with strategies to improve appropriateness of the intervention for Aboriginal students added prospectively through collaboration with Aboriginal community representatives, an Aboriginal Advisory Group in the project governance structure and Aboriginal members of the research team. Planned future analyses for the present trial will include examination of the impact of the program on Aboriginal students and consider the appropriateness of its implementation with Aboriginal students. Finally, the staff report implementation data used a single informant for school strategies, and included variables that were difficult to report accurately (e.g., number of hours of resilience content across a key learning area for a Grade). However, although limited, the collection of such data was a feasible way to provide a comparison between intervention and control schools in their implementation of strategies targeting protective factors.

The current study contributes results from a universal, school-based, pragmatic resilience protective factor intervention relating to mental health outcomes in a sample of adolescents, to a large related research field. Additionally, the study highlights the continued difficulties in developing sustainable and scalable prevention programs that provide both effective strengthening of protective factors and prevention of mental health problems in adolescents (Roberts et al., 2010).

Declaration of interest

The authors declare that they have no competing interests.

Contributions

JD drafted the manuscript and participated in the design and coordination of the study. MF, JB, EC and JW helped draft the manuscript; participated in a critical review of the manuscript content; and participated in the conception, design and co-ordination of the study. RH participated in critical review of the manuscript; and participated in the conception, design and coordination of the study. LW and KG participated in critical review of the manuscript; and participated in the conception and design of the study. JR, CAL, and SG participated in critical review of the manuscript; and the design and co-ordination of the study. CO, JA, and CHL gave statistical support and participated in critical review of the manuscript. All authors read and approved the final manuscript.

Availability of data and material

The datasets generated and analysed during the current study are not publicly available to preserve the privacy of participants, however are available from the chief investigator Prof John Wiggers on reasonable request.

For the duration of the research project a HSHF Aboriginal Cultural Steering Group made up of Aboriginal staff from local Aboriginal community organisations and Government Departments was established to provide Aboriginal cultural advice and direction regarding the design, implementation, evaluation and dissemination of all research trial elements. Similarly, a HSHF Cultural Advice Group was established consisting of Aboriginal staff from the HSHF project team to provide advice regarding the research trial. We would like to thank the members of both the HSHF Aboriginal Cultural Steering Group and the HSHF Cultural Advice Group for their on-going advice. Additionally, ethical approval was received from the Aboriginal Health and Medical Research Council (AH&MRC).

Abbreviations

NSW   New South Wales
SDQ   Strengths and Difficulties Questionnaire
LGA   Local Government Area
SEIFA   Socio-Economic Indexes for Areas
ITT   Intention-to-treat

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.adolescence.2017.03.009.

References

Aberdeen University: Health Services Research Unit. (2011). *Database of intra-correlation co-efficients (ICCs). Study Design*. Retrieved from www.abdn.ac.uk/hsru/research/research-tools/study-design.

Araya, R., Fritsch, R., Spears, M., Rojas, G., Martinez, V., Barroilhet, S., et al. (2013). School intervention to improve mental health of students in Santiago, Chile: A randomized clinical trial. *JAMA Pediatrics, 167*(11), 1004–1010.

Australian Curriculum Assessment and Reporting Authority. (2010). *My school*. Retrieved from www.myschool.edu.au.

BeyondBlue. (2016). *SenseAbility resources*. Retrieved from https://www.beyondblue.org.au/healthy-places/secondary-schools-and-tertiary/senseability/senseability-resources.

BeyondBlue and the Department of Health of the Australian Government. (2016). *MindMatters*. Retrieved from https://www.mindmatters.edu.au/.

Blakemore, S., & Mills, K. L. (2014). Is Adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology, 65*(1), 187–207.

Board of Studies Teaching and Educational Standards NSW. (2016). *K-10 curriculum framework*. Retrieved from https://www.boardofstudies.nsw.edu.au/syllabuses/curriculum-development/k-10-curriculum-framework.html.

Bond, L., Glover, S., Godfrey, C., Butler, H., & Patton, G. C. (2001). Building capacity for system-level change in schools: Lessons from the Gatehouse Project. *Health Education & Behavior, 28*, 368–383.

Bond, L., Patton, G., & Glover, S. (2004). The Gatehouse Project: Can a multilevel school intervention affect emotional wellbeing and health risk behaviours? *Journal Epidemiology Community Health, 58*(12), 997–1003. http://dx.doi.org/10.1136/jech.2003.009449.

Bond, L., Toumbourou, J. W., Thomas, L., Catalano, R. F., & Patton, G. (2005). Individual, family, school, and community risk and protective factors for depressive symptoms in adolescents: A comparison of risk profiles for substance use and depressive symptoms. *Prevention Science, 6*(2), 73–88. http://dx.doi.org/10.1007/s11121-005-3407-2.

Brooks, J. E. (2006). Strengthening resilience in children and youths: Maximising opportunities through schools. *Children & Schools, 28*(2), 69–76. http://dx.doi.org/10.1093/cs/28.2.69.

Buckley, S., Cannon, M., Chambers, D., Coughlan, H., Duffy, M., Gavin, B., et al. (2011). *The international declaration on youth mental health*. Killarney, Ireland: International Association of Youth Mental Health. Retrieved from http://www.iaymh.org/f.ashx/IDYMH_Long-Version_Oct2013-1-.pdf.

Burckhardt, R., Manicavasagar, V., Batterham, P. J., Miller, L. M., Talbot, E., & Lum, A. (2015). A web-based adolescent positive psychology program in schools: Randomized controlled trial. *Journal of Medical Internet Research, 17*(7), e187. http://dx.doi.org/10.2196/jmir.4329.

Buttigieg, J. P., Shortt, A. L., Slaviero, T. M., Hutchinson, D., Kremer, P., & Toumbourou, J. W. (2015). A longitudinal evaluation of the Resilient Families randomized trial to prevent early adolescent depressive symptoms. *Journal of Adolescence, 44*, 204–213. http://dx.doi.org/10.1016/j.adolescence.2015.07.014.

Cahill, H., Beadle, S., Farrelly, A., Forster, R., & Smith, K. (2014). *Building resilience in children and young people: A literature review for the deapartment of education and early childhood development (DEECD)*. Melbourne, VIC, Australia: Youth Research Centre, Melbourne Graduate School of Education, University of Melbourne. Retrieved from http://www.education.vic.gov.au/Documents/about/department/resiliencelitreview.pdf.

Calear, A. L., Christensen, H., Mackinnon, A., Griffiths, K. M., & O'Kearney, R. (2009). The YouthMood project: A cluster randomized controlled trial of an online cognitive behavioral program with adolescents. *Journal of Consulting & Clinical Psychology, 77*(6), 1021–1032. http://dx.doi.org/10.1037/a0017391.

California Department of Education (Producer). (2013). *California Healthy Kids survey. Resilience & youth development Module: Supplement 1*.

Cardemil, E. V., Reivich, K. J., Beevers, C. G., Seligman, M. E., & James, J. (2007). The prevention of depressive symptoms in low-income, minority children: Two-year follow-up. *Behaviour Research and Therapy, 45*(2), 313–327. http://dx.doi.org/10.1016/j.brat.2006.03.010. Retrieved from http://onlinelibrary.wiley.com/o/cochrane/clcentral/articles/086/CN-00576086/frame.html.

Centre for Education Statistics and Evaluation. (2015). *Literature Review: Student wellbeing*. Sydney, Australia: Centre for Education Statistics and Evaluation, and NSW Department of Education and Communities. Retrieved from https://www.cese.nsw.gov.au/publications-filter/student-wellbeing-literature-review.

Chaplin, T. M., Gillham, J. E., Reivich, K., Elkon, A. G. L., Samuels, B., Freres, D. R., et al. (2006). Depression prevention for early adolescent girls: A pilot study of all girls versus co-ed groups. *The Journal of Early Adolescence, 26*(1), 110–126. http://dx.doi.org/10.1177/0272431605282655.

Chisholm, K. E., Patterson, P., Torgerson, C., Turner, S., & Birchwood, M. (2012). A randomised controlled feasibility trial for an educational school-based mental health intervention: Study protocol. *BMC Psychiatry, 12*, 23–29. http://dx.doi.org/10.1186/1471-244X-12-23.

Cowen, E. L., Hightower, A. D., Pedro-Carroll, J. L., Work, W. C., Wyman, P. A., & Haffey, W. G. (1996). *The Rochester Child Resilience Project School-based prevention for children at risk: The Primary Mental Health Project (pp. 255–274)*. Washington, DC, US: American Psychological Association; US.

Cutuli, J., Gillham, J. E., Chaplin, T. M., Reivich, K. J., Seligman, M. E., Gallop, R. J., et al. (2013). Preventing adolescents' externalizing and internalizing symptoms: Effects of the penn resiliency program. *The International Journal of Emotional Education, 5*(2), 67–79.

Davydov, D. M., Stewart, R., Ritchie, K., & Chaudieu, I. (2010). Resilience and mental health. *Clinical Psychology Review, 30*, 479–495.

Department of Health and Aged Care. (2001). *Measuring remoteness: Accessibility/remoteness Index of Australia (ARIA)*. Canberra, Australia: Australian Government. Retrieved from http://www.health.gov.au/internet/main/publishing.nsf/Content/health-historicpubs-hfsocc-ocpanew14a.htm.

Dray, J., Bowman, J., Freund, M., Campbell, E., Hodder, R. K., Lecathelinais, C., et al. (2016). Mental health problems in a regional population of Australian adolescents: Association with socio-demographic characteristics. *Child and Adolescent Psychiatry and Mental Health, 10*(32). http://dx.doi.org/10.1186/s13034-016-0120-9.

Dray, J., Bowman, J., Freund, M., Campbell, E., Wolfenden, L., Hodder, R. K., et al. (2014). Improving adolescent mental health and resilience through a resilience-based intervention in schools: Study protocol for a randomised controlled trial. *Trials, 15*, 289. http://dx.doi.org/10.1186/1745-6215-15-289.

Ellickson, P. L., Bianca, D., & Schoeff, D. C. (1988). Containing attrition in school-based research: An innovative approach. *Evaluation Review, 12*(4), 331–351.

Fergusson, D. M., & Woodward, L. J. (2002). Mental health, educational, and social role outcomes of adolescents with depression. *Archives of General Psychiatry, 59*(3), 225–231. http://dx.doi.org/10.1001/archpsyc.59.3.225.

Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399–419.

Fitzpatrick, C., Conlon, A., Cleary, D., Power, M., King, F., & Guerin, S. (2013). Enhancing the mental health promotion component of a health and personal development programme in Irish schools. *Advances in School Mental Health Promotion, 6*(2), 122–138.

Fitzpatrick, C., Power, M., Brosnan, E., Cleary, D., Conlon, A., & Guerin, S. (2009). Working things out through SPHE-A journey from community to clinic and back. *Advances in School Mental Health Promotion, 2*(3), 38–45. http://dx.doi.org/10.1080/1754730X.2009.9715709.

Friedli, L. (2009). *Mental health, resilience and inequalities*. Copenhagon, Europe: World Health Organisation. Retrieved from http://www.euro.who.int/__data/assets/pdf_file/0012/100821/E92227.pdf.

Gillham, J. E., Reivich, K. J., Freres, D. R., Chaplin, T. M., Shatte, A. J., Samuels, B., et al. (2007). School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the penn resiliency program. *Journal of Consulting & Clinical Psychology, 75*(1), 9–19.

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581–586.

Goodman, A., & Goodman, R. (2009). Strengths and Difficulties Questionnaire as a dimensional measure of child mental health. *Journal of the American Academy of Child and Adolescent Psychiatry, 48*(4), 400–403.

Goodman, A., Lamping, D. L., & Ploubidis, G. B. (2010). When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the strengths and difficulties questionnaire (SDQ): Data from British parents, teachers and children. *Journal of Abnormal Child Psychology, 38*(8), 1179–1191.

Goodman, R., Meltzer, H., & Bailey, V. (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry, 7*(3), 125–130.

Greenberg, M. T., Domitrovich, C., & Bumbarger, B. (2001). The prevention of mental disorders in school-aged children: Current state of the field. *Prevention and Treatment, 4*(1). http://dx.doi.org/10.1037/1522-3736.4.1.41a.

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: Systematic review and recommendations. *The Milbank Quarterly, 82*(4), 581–629.

Hanson, T. L., & Kim, J. O. (2007). *Measuring resilience and youth development: The psychometric properties of the Healthy Kids Survey (Issues & Answers Report, REL 2007–No. 034)*. Retrieved from Washington, DC http://ies.ed.gov/ncee/edlabs.

Hawkins, J. D., Oesterle, S., Brown, E. C., Abbott, R. D., & Catalano, R. F. (2014). Youth problem behaviors 8 years after implementing the communities that care prevention system: A community-randomized trial. *JAMA Pediatrics, 168*(2), 122–129. http://dx.doi.org/10.1001/jamapediatrics.2013.4009.

Hjemdal, O., Friborg, O., Stiles, T. C., Rosenvinge, J. H., & Martinussen, M. (2006). Resilience predicting psychiatric symptoms: A prospective study of protective factors and their role in adjustment to stressful life events. *Child Psychology and Psychotherapy, 13*(3), 194–201.

Hjemdal, O., Vogel, P. A., Solem, S., Hagen, K., & Stiles, T. C. (2011). The relationship between resilience and levels of Anxiety, Depression, and Obsessive–Compulsive symptoms in adolescents. *Clinical Psychology and Psychotherapy, 18*(4). http://dx.doi.org/10.1002/cpp.719, 214–321.

Hodder, R., Daly, J., Freund, M., Bowman, J., Hazell, J., & Wiggers, J. (2011). A school-based resilience intervention to decrease tobacco, alcohol and marijuana use in high school students. *BMC Public Health, 11*, 722.

Hodder, R., Freund, M., Bowman, J., Wolfenden, L., Campbell, E., Wye, P., et al. (2012). A cluster randomised trial of a school-based resilience intervention to decrease tobacco, alcohol and illicit drug use in secondary school students: Study protocol. *BMC Public Health, 12*, 1009.

Hodgson, R., Abbasi, T., & Clarkson, J. (1996). Effective mental health promotion: A literature review. *Health Education Journal, 55*(1), 55–74. http://dx.doi.org/10.1177/001789699605500106.

Horowitz, J. L., Garber, J., Ciesla, J. A., Young, J. F., & Mufson, L. (2007). Prevention of depressive symptoms in adolescents: A randomized trial of cognitive-behavioral and interpersonal prevention programs. *Journal of Consulting and Clinical Psychology, 75*(5), 693–706. http://dx.doi.org/10.1037/0022-006X.75.5.693.

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*(6), 593–602.

Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., et al. (2011). Child and adolescent mental health worldwide: Evidence for action. *The Lancet, 378*(9801), 1515–1525. http://dx.doi.org/10.1016/S0140-6736(11)60827-1.

Kindt, K. C. M., Kleinjan, M., Janssens, J. M. A. M., & Scholte, R. H. J. (2014). Evaluation of a school-based depression prevention program among adolescents from low-income areas: A randomized controlled effectiveness trial. *International Journal of Environmental Research and Public Health, 11*, 5273–5293. http://dx.doi.org/10.3390/ijerph110505273.

Lawrence, D., Johnson, S., Hafekost, J., Boterhoven de Haan, K., Sawyer, M., Ainley, J., et al. (2015). *The mental health of children and adolescents: Report on the second Australian child and adolescent survey of mental health and wellbeing*. Canberra, ACT, Australia: Department of Health. Retrieved from https://www.health.gov.au/internet/main/publishing.nsf/Content/9DA8CA21306FE6EDCA257E2700016945/$File/child2.pdf.

Lee, P. C., & Stewart, D. E. (2013). Does a socio-ecological school model promote resilience in primary schools? *Journal of School Health, 83*(11), 795–804.

Leventhal, K. S., Gillham, J., DeMaria, L., Andrew, G., Peabody, J., & Leventhal, S. (2015). Building psychosocial assets and wellbeing among adolescent girls: A randomized controlled trial. *Journal of Adolescence, 45*, 284–295. http://dx.doi.org/10.1016/j.adolescence.2015.09.011.

Lock, S., & Barrett, P. M. (2003). A longitudinal study of developmental differences in universal preventive intervention for child anxiety. *Behaviour Change, 20*(04), 183–199. http://dx.doi.org/10.1375/bech.20.4.183.29383.

Lowry-Webster, H. M., Barrett, P. M., & Lock, S. (2003). A universal prevention trial of anxiety symptomology during childhood: Results at 1-year follow-up. *Behaviour Change, 20*(01), 25–43. http://dx.doi.org/10.1375/bech.20.1.25.24843.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543–562.

Mathai, J., Anderson, P., & Bourne, A. (2003). Use of the Strengths and Difficulties Questionnaire as an outcome measure in a child and adolescent mental health service. *Australasian Psychiatry, 11*(3), 334–337.

McCall, R. B. (2009). *Evidence-based programming in the context of practice and policy*. Retrieved from Society for Research in Child Development: Ann Arbor, Michigan http://files.eric.ed.gov/fulltext/ED509748.pdf.

Mellor, D. (2005). Normative data for the strengths and difficulties questionnaire in Australia. *Australian Psychologist, 40*(3), 215–222.

Melnyk, B. M., Kelly, S., Jacobson, D., Belyea, M., Shaibi, G., Small, L., & Marsiglia, F. F. (2013). The COPE healthy lifestyles TEEN randomized controlled trial with culturally diverse high school adolescents: Baseline characteristics and methods. *Contemporary Clinical Trials, 36*(1), 41–53. http://dx.doi.org/10.1016/j.cct.2013.05.013.

Mental Health First Aid. (2016). *Mental health first aid Australia*. Retrieved from https://mhfa.com.au/.

Merry, S., McDowell, H., Wild, C. J., Bir, J., & Cunliffe, R. (2004). A randomized placebo-controlled trial of a school-based depression prevention program. *Journal of American Academy of Child and Adolescent Psychiatry, 43*(5), 538–547. http://dx.doi.org/10.1097/00004583-200405000-00007.

MindMatters. (2000). *Evaluation Consortium: MindMatters: A mental health promotion resource for secondary schools* (Retrieved from Newcastle).

Minnard, C. V. (2002). A strong building: Foundation of protective factors in schools. *Children & Schools, 24*(4), 233–246.

Muris, P., Meesters, C., & van den Berg, F. (2003). The Strengths and Difficulties Questionnaire (SDQ): Further evidence for its reliability and validity in a community sample of Dutch children and adolescents. *European Child & Adolescent Psychiatry, 12*, 1–8.

NSW Department of Education and Communities. (2011). *Low socio-economic status school communities national partnership* (Retrieved from Sydney: New South Wales).

O'Mara, L., & Lind, C. (2013). What do we know about school mental health promotion programmes for children and youth? *Advances in School Mental Health Promotion, 6*(3), 203–224.

Queensland University of Technology. (12th August 2013). Resourceful adolescent program. Retrieved 16th December, 2013, from http://www.rap.qut.edu.au/.

Patel, V., Flisher, A. J., Hetrick, S., & McGorry, P. (2007). Mental health of young people: A global public-health challenge. *The Lancet, 369*(9569), 1302–1313.

Patton, G. C., Bond, L., Carlin, J. B., Thomas, L., Butler, H., Glover, S., et al. (2006). Promoting social inclusion in schools: A group-randomised trial of effects on student health risk behaviour and well-being. *American Journal of Public Health, 96*(9), 1582–1587.

Perry, Y., Petrie, K., Buckley, H., Cavanagh, L., Clarke, D., Winslade, M., et al. (2014). Effects of a classroom-based educational resource on adolescent mental health literacy: A cluster randomised controlled trial. *Journal of Adolescence, 37*(7), 1143–1151. http://dx.doi.org/10.1016/j.adolescence.2014.08.001.

Petersen, A. C., Leffert, N., Graham, B., Alwin, J., & Ding, S. (1997). Promoting mental health during the transition into adolescence. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence*. Camnridge: Cambridge University Press.

Pirie, P., Thomson, S. J., Mann, S. L., Peterson, A. V., Murray, D. M., Flay, B. R., et al. (1989). Tracking and attrition in longitudinal school-based smoking prevention research. *Preventive Medicine, 18*(2), 249–256.

Possel, P., Horn, A. B., Groen, G., & Hautzinger, M. (2004). School-based prevention of depressive symptoms in adolescents: A 6-month follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry, 43*(8), 1003–1010. http://dx.doi.org/10.1097/01.chi.0000126975.56955.98.

Pössel, P., Seemann, S., & Hautzinger, M. (2008). Impact of comorbidity in prevention of adolescent depressive symptoms. *Journal of Counseling Psychology, 55*(1), 106–117.

Purdie, N., & Buckley, S. (2010). *School attendance and retention of Indigenous Australian students*. Retrieved from Australian Government, Australian Institute of Health and Welfare, and Australian Institute of Family Studies: Australia http://www.aihw.gov.au/uploadedFiles/ClosingTheGap/Content/Publications/2010/ctg-ip01.pdf.

Redmond, C., Spoth, R., Shin, C., Schainker, L. M., Greenberg, M. T., & Feinberg, M. (2009). Long-Term protective factor outcomes of evidence-based interventions implemented by community teams through a community-university partnership. *The Journal of Primary Prevention, 30*(5), 513–530. http://dx.doi.org/10.1007/s10935-009-0189-5.

Rescorla, L., Achenbach, T. M., Ivanova, M. Y., Dumenci, L., Almqvist, F., Bilenberg, N., et al. (2007). Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries. *Journal of Consulting and Clinical Psychology, 75*(2), 351–358.

Rivet-Duval, E., Heriot, S., & Hunt, C. (2011). Preventing adolescent depression in Mauritius: A universal school-based program. *Child and Adolescent Mental Health, 16*(2), 86–91. http://dx.doi.org/10.1111/j.1475-3588.2010.00584.x.

Roberts, C. M., Kane, R., Bishop, B., Cross, D., Fenton, J., & Hart, B. (2010). The prevention of anxiety and depression in children from disadvantaged schools. *Behaviour Research & Therapy, 48*(1), 68–73. http://dx.doi.org/10.1016/j.brat.2009.09.002.

Rodgers, A., & Dunsmuir, S. (2015). A controlled evaluation of the 'FRIENDS for life' emotional resiliency programme on overall anxiety levels, anxiety subtype levels and school adjustment. *Child and Adolescent Mental Health, 20*(1), 13–19. http://dx.doi.org/10.1111/camh.12030.

Rose, K., Hawes, D. J., & Hunt, C. J. (2014). Randomized controlled trial of a friendship skills intervention on adolescent depressive symptoms. *Journal of Consulting and Clinical Psychology, 82*(3), 510–520. http://dx.doi.org/10.1037/a0035827.

Rubin, D. B. (1987). *Multiple imputation for nonresponse in surveys*. New York: Wiley.

Ruini, C., Ottolini, F., Tomba, E., Belaise, C., Albieri, E., Visani, D., et al. (2009). School intervention for promoting psychological well-being in adolescence. *Journal of Behavior Therapy & Experimental Psychiatry, 40*(4), 522–532. http://dx.doi.org/10.1016/j.jbtep.2009.07.002.

SAS Institute Inc. (2013). *SAS software version 9.4 for windows*. Cary, North Carolina: USA: SAS Institute Inc.

Sawyer, M. G., Harchak, T. F., Spence, S. H., Bond, L., Graetz, B., Kay, D., et al. (2010). School-based prevention of depression: A 2-year follow-up of a randomized controlled trial of the beyondblue schools research initiative. *Journal Adolescent Health, 47*(3), 297–304. http://dx.doi.org/10.1016/j.jado-health.2010.02.007.

Schwab, R. G. (1999). *Why only one in three? The complex reasons for low indigenous school retention CAEPR Research Monograph No. 16*. Canberra, ACT, Australia: Centre for Aboriginal Economic Policy Research, The Australian National University.

Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education, 35*(3), 293–311.

Spoth, R., & Greenberg, M. T. (2005). Toward a comprehensive strategy for effective practitioner–scientist partnerships and larger-scale community health and well-being. *American Journal of Community Psychology, 35*(3–4), 107–126.

Spoth, R., Redmond, C., Shin, C., Greenberg, M. T., Clair, S., & Feinberg, M. (2007). Substance-use outcomes at 18 months past baseline: The PROSPER community-university partnership trial. *American Journal of Preventive Medicine, 32*(5), 395–402. http://dx.doi.org/10.1016/j.amepre.2007.01.014.

Spoth, R., Redmond, C., Shin, C., Greenberg, M. T., Feinberg, M., & Schainker, L. (2013). PROSPER community-university partnership delivery system effects on substance misuse through 6 1/2 years past baseline from a cluster randomized controlled intervention trial. *Preventive Medicine, 56*(3–4), 190–196. http://dx.doi.org/10.1016/j.ypmed.2012.12.013.

Spoth, R., Trudeau, L. S., Redmond, C. R., Shin, C., Greenberg, M. T., Feinberg, M. E., et al. (2015). PROSPER partnership delivery system: Effects on adolescent conduct problem behavior outcomes through 6.5 years past baseline. *Journal of Adolescence, 45*, 44–55.

Sun, J., & Stewart, D. E. (2010). Promoting student resilience and wellbeing: Asia-pacific resilient children and communities project. In T. Lovat, R. Toomey, & N. Clement (Eds.), *International research handbook on values education and student wellbeing* (pp. 409–426). New York, US: Springer Science + Business Media.

Tak, Y. R., Kleinjan, M., Lichtwarck-Aschoff, A., & Engels, R. C. (2014). Secondary outcomes of a school-based universal resiliency training for adolescents: A cluster randomized controlled trial. *BMC Public Health, 14*(1171). http://dx.doi.org/10.1186/1471-2458-14-1171.

Tak, Y. R., Lichtwarck-Aschoff, A., Gillham, J. E., Van Zundert, R. M., & Engels, R. C. (2016). Universal school-based depression prevention 'op volle kracht': A longitudinal cluster randomized controlled trial. *Journal Abnormal Child Psychology, 44*(5), 949–961. http://dx.doi.org/10.1007/s10802-015-0080-1.

Thorpe, K. E., Zwarenstein, M., Oxman, A. D., Treweek, S., Furberg, C. D., Altman, D. G., et al. (2009). A pragmatic-explanatory continuum indicator summary (PRECIS): A tool to help trial designers. *Journal of Clinical Epidemiology, 62*(5), 464–475.

Tomba, E., Belaise, C., Ottolini, F., Ruini, C., Bravi, A., Albieri, E., et al. (2010). Differential effects of well-being promoting and anxiety-management strategies in a non-clinical school setting. *Journal of Anxiety Disorders, 24*(3), 326–333. http://dx.doi.org/10.1016/j.janxdis.2010.01.005. Retrieved from http://onlinelibrary.wiley.com/o/cochrane/clcentral/articles/144/CN-00753144/frame.html.

Trewin, D. (2003). *Information paper census of population and housing socio-economic indexes for areas: Australia 2001*. Retrieved from Australian Bureau of Statistics: Commonwealth of Australia: Canberra, ACT, Australia http://www.ausstats.abs.gov.au/Ausstats/free.nsf/Lookup/AFF5E8542B58B94ECA256DD5007A3DF8/$File/20390_2001.pdf.

Trudeau, L, Spoth, R., Randall, G. K., & Azevedo, K. (2007). Longitudinal effects of a universal family-focused intervention on growth patterns of adolescent internalizing symptoms and polysubstance use: Gender comparisons. *Journal of Youth & Adolescence, 36*(6), 725–740. http://dx.doi.org/10.1007/s10964-007-9179-1.

Trudeau, L, Spoth, R., Randall, G. K., Mason, W. A., & Shin, C. (2012). Internalizing symptoms: Effects of a preventive intervention on developmental pathways from early adolescence to young adulthood. *Journal of Youth & Adolescence, 41*(6), 788–801. http://dx.doi.org/10.1007/s10964-011-9735-6.

Urbis. (2011). *Literature review on meeting the psychological and emotional wellbeing needs of children and young people: Models of effective practice in educational settings*. Retrieved from Final Report, prepared for the NSW Department of Education and Communities: Australia https://www.det.nsw.

edu.au/media/downloads/about-us/statistics-and-research/public-reviews-and-enquiries/school-counselling-services-review/models-of-effective-practice.pdf.

Victoria State Government. (2014, 19 September 2014). *Building resilience. Child health and wellbeing.* Retrieved from http://www.education.vic.gov.au/school/parents/health/Pages/resilience.aspx.

Weisz, J. R., Sandler, I. N., Durlak, J. A., & Anton, B. S. (2005). Promoting and protecting youth mental health through evidence-based prevention and treatment. *American Psychologist, 60*(6), 628–648. http://dx.doi.org/10.1037/0003-066X.60.6.628.

WestEd. (2013). *California Healthy Kids survey.* Retrieved from http://chks.wested.org/.

Wolpert, M., Humphrey, N., Deighton, J., Patalay, P., Fugard, A. J. B., Fonagy, P., et al. (2015). An evaluation of the implementation and impact of England's Mandated School-Based Mental Health Initiative in elementary schools. *School Psychology Review, 44*(1), 117–138.

World Health Organisation. (1991). *Planning meeting in health promoting schools project: Background, development and strategy outline of the health promoting schools project.* Copenhagen, Denmark: World Health Organisation.

World Health Organisation. (2014). *Health for the World's adolescents.* Geneva, Switzerland: World Health Organisation. Retrieved from http://apps.who.int/iris/bitstream/10665/112750/1/WHO_FWC_MCA_14.05_eng.pdf.

Wyn, J., Cahill, H., Holdsworth, R., Rowling, L., & Carson, S. (2000). MindMatters, a whole-school approach promoting mental health and wellbeing. *Australian and New Zealand Journal of Psychiatry, 34*(4), 594–601.

Supplementary Table 1. Primary and secondary outcome measures

	Subscale and Example Survey Item
Primary outcomes (R. Goodman, Meltzer, & Bailey, 1998):	
Total SDQ score	Calculated using scores from the items comprising the internalising and externalising problem subscales; 20 items.
Internalising problems score	Internalising subscale: 10 items; e.g. *"I worry a lot"*
Externalising problems score	Externalising subscale: 10 items; e.g. *"I get very angry and often lose my temper"*
Prosocial behaviour score	Prosocial subscale: 5 items; e.g. *"I am helpful if someone is hurt, upset or feeling ill"*
Secondary Outcomes (Hanson & Kim, 2007):	
Internal protective factors	Cooperation and communication subscale: 2 items; e.g. *"I enjoy working together with other students my age"*
	Self-efficacy subscale: 4 items; e.g. *"I can do most things if I try"*
	Empathy subscale: 3 items; e.g. *"I try to understand what other people feel and think"*
	Problem solving subscale: 3 items; e.g. *"When I need help I find someone to talk with"*
	Self-awareness subscale: 3 items; e.g. *"I understand why I do what I do"*
	Goals and aspirations subscale: 3 items; e.g. *"I have goals and plans for the future"*
External protective factors	School support subscale: 6 items; e.g. *"At my school there is an adult who really cares about me"*
	School meaningful participation subscale: 3 items; e.g. *"At my school, I help decide things like class activities or rules"*
	Peer caring relationships subscale: 3 items; e.g. *"I have a friend who helps me when I'm having a hard time"*

Supplementary Table 2. Cut-points used for each SDQ outcome in subgroup analysis by baseline mental health problem levels (A. Goodman, Lamping, & Ploubidis, 2014; YouthInMind, 2014)

	Score ranges			
	Close to Average	Slightly raised	High	Very High
Total SDQ	0-14	15-17	18-19	20-40
Internalising problems	0-6	7-8	9	10-20
Externalising problems	0-8	9-10	11-12	13-20
Prosocial Behaviour	7-10	6	5	0-4

Supplementary Table 3: Primary outcomes by gender, adjusted for treatment group (N=2105)

SDQ score	Variable	Sub-group	Means (SD)		Mean difference (95% CI)	
			Control (n=850)	Intervention (n=1255)	Int vs. Cont	p
Total SDQ	Overall		13.58 (6.49)	14.04 (6.80)	0.47 (-0.41, 1.35)	0.27
	Gender					0.65[a]
		Female	14.71 (6.85)	15.39 (7.08)	0.60 (-0.46, 1.67)	.
		Male	12.50 (5.93)	12.73 (6.24)	0.34 (-0.71, 1.40)	.
Internalising	Overall		6.74 (3.83)	6.88 (3.98)	0.05 (-0.54, 0.63)	0.87
	Gender					0.48[a]
		Female	7.87 (4.01)	8.17 (4.11)	0.17 (-0.51, 0.84)	.
		Male	5.66 (3.32)	5.61 (3.40)	-0.07 (-0.74, 0.60)	.
Externalising	Overall		6.84 (3.68)	7.16 (3.91)	0.43 (0.04, 0.83)	0.02
	Gender					0.93[a]
		Female	6.84 (3.82)	7.21 (3.96)	0.45 (-0.08, 0.98)	.
		Male	6.83 (3.55)	7.12 (3.86)	0.42 (-0.10, 0.94)	.
Prosocial behaviour	Overall		6.99 (2.03)	6.89 (2.10)	-0.08 (-0.35, 0.19)	0.53
	Gender					0.54[a]
		Female	7.47 (1.85)	7.29 (2.01)	-0.14 (-0.46, 0.19)	.
		Male	6.52 (2.09)	6.49 (2.11)	-0.03 (-0.35, 0.29)	.

[a]p values relate to gender x group interaction

Supplementary Table 4: Primary outcomes by baseline level of mental health problems, adjusted for treatment group (N=1649)[b]

SDQ score	Variable	Sub-group	Means (SD)[n]		Mean difference (95% CI)	
			Control (n=665)[b]	Intervention (n=984)[b]	Int vs. Cont	p
Total SDQ	Overall		13.30 (6.33) [n=665]	14.17 (6.89) [n=984]	1.01 (-0.05, 2.07)	0.05
	Baseline SDQ					0.02[a]
		Close to average	11.92 (5.77) [n=475]	11.90 (6.03) [n=621]	0.09 (-0.86, 1.04)	.
		Slight	15.01 (5.75) [n=75]	16.17 (6.15) [n=146]	1.43 (-0.34, 3.19)	.
		High	17.35 (5.59) [n=37]	16.89 (6.45) [n=72]	-0.64 (-3.08, 1.80)	.
		Very High	18.10 (6.96) [n=78]	20.54 (6.11) [n=145]	2.62 (0.85, 4.39)	.
Internalising	Overall		6.52 (3.72) [n=665]	6.95 (4.04) [n=984]	0.38 (-0.28, 1.04)	0.24
	Baseline SDQ					0.10[a]
		Close to average	5.73 (3.30) [n=461]	5.85 (3.56) [n=620]	0.11 (-0.51, 0.72)	.
		Slight	7.67 (3.60) [n=98]	8.11 (3.84) [n=154]	0.29 (-0.71, 1.29)	.
		High	8.95 (4.03) [n=37]	7.78 (4.09) [n=63]	-1.05 (-2.54, 0.45)	.
		Very High	8.81 (4.47) [n=69]	10.00 (4.21) [n=147]	1.08 (-0.02, 2.18)	.
Externalising	Overall		6.78 (3.65) [n=665]	7.22 (3.95) [n=984]	0.59 (0.10, 1.08)	0.01
	Baseline SDQ					0.01[a]
		Close to average	5.88 (3.35) [n=466]	5.91 (3.48) [n=647]	0.14 (-0.33, 0.61)	.
		Slight	8.37 (3.41) [n=95]	8.61 (3.34) [n=160]	0.35 (-0.55, 1.26)	.
		High	9.27 (3.34) [n=63]	9.99 (3.40) [n=93]	0.89 (-0.23, 2.02)	.
		Very High	9.56 (3.67) [n=41]	11.63 (3.32) [n=84]	2.29 (0.98, 3.61)	.

Prosocial behaviour	Overall		6.97 (2.04) [n=665]	6.91 (2.03) [n=984]	-0.01 (-0.30, 0.28)	0.97
	Baseline SDQ					0.67[a]
		Close to average	7.41 (1.86) [n=459]	7.45 (1.80) [n=662]	0.07 (-0.22, 0.35)	.
		Slight	6.61 (1.95) [n=95]	6.28 (1.88) [n=138]	-0.27 (-0.79, 0.25)	.
		High	5.71 (2.10) [n=66]	5.74 (1.97) [n=101]	0.01 (-0.60, 0.62)	.
		Very High	5.04 (1.93) [n=45]	5.06 (2.06) [n=83]	0.05 (-0.66, 0.75)	.

[a]p values relate to baseline SDQ level x group interaction

[b]A reduced number of students completed the SDQ at baseline due to a delay in receiving required approvals for administration of this measure

Supplementary Table 5: Examples of strategies that schools implemented to address the intervention strategies

Intervention strategies by Health Promoting Schools domain	Examples of specific programs implemented in intervention schools per strategy
Curriculum, teaching and learning	
1. Age-appropriate lessons (9 hours) on individual protective factors across school subjects	MindMatters (MindMatters, 2000; Wyn, Cahill, Holdsworth, Rowling, & Carson, 2000); SenseAbility (BeyondBlue, 2016); school-developed curriculum resources (e.g. Student activities within 'Overcoming Adversity' unit and resilience booklets).
2. Non-curriculum programs (9 hours) targeting protective factors	The Resourceful Adolescent Program (Queensland University of Technology, 2013); SenseAbility (BeyondBlue, 2016); resilience meta-language posters; random acts of kindness week.
3. Additional program targeting protective factors for Aboriginal students	Feeling Deadly Not Shame (Australian Indigenous HealthInfoNet, 2015); engagement with Clontarf (Clontarf Foundation, 2016); Sista Speak; Bro Speak (Ridgeway, 2009); Aboriginal yarning groups; Stronger, Smarter program (Stronger Smarter Institute, 2016).
Ethos and environment	
4. Rewards and recognition program	Formal acknowledgements of student contribution to the school outside academic and sporting achievements; encouragement of student input in recognition processes; resilience and student empowerment awards.
5. Peer support/peer mentoring programs	Peer mentoring; peer tutoring/support; peer mediation; positive relationship and year group bonding camps; Rock and Water (Gadaku Institute, 2016).
6. Anti-bullying programs	Buddy schemes; positive bystander programs; positive peer programs; anti-bullying day (e.g. RUOK Day); cyberbullying programs (e.g. Cyberia (Brainstorm Productions, 2016)); safe and supportive school environment (e.g. Bullying No Way(Supportive

School Communities (SSSC) Working Group, 2016)); Project RockIt (Thomas & Thomas, 2015).

7. Empowerment/leadership programs

Duke of Edinburgh International Awards Youth Program (The Duke of Edinburgh's International Award - Australia, 2016); Positive lifestyles program (The Salvation Army, 2016).

8. Additional empowerment/leadership/mentoring programs for Aboriginal students

Outdoor learning space and Yarning space for Aboriginal students; excursions to Yamuloong Cultural Centre (Yarnteen Aboriginal & Torres Strait Islanders Corporation, 2016) to participate in cultural talks and learn about traditional Aboriginal culture; Dare to Lead Program (WA DoE, 2010); Junior AECG.

9. Aboriginal cultural awareness strategies

Aboriginal cultural art project (e.g. Aboriginal mural in school hall); NAIDOC week formal assembly; Connect to Country; display of Acknowledgement of Country.

Partnerships and services

10. Promotion/engagement of local community organisations/groups/clubs in school (e.g. charity organizations)

Focus on increasing quality and sustainability of partnerships, and development of effective communication strategy between schools and external partners (including local churches and sports clubs, Lions and Rotary Clubs, Samaritans, Red Cross).

11. Additional/enhanced consultation activities with Aboriginal community groups

Enhanced consultation activities with Aboriginal Health and Aboriginal parents (e.g. parent-teacher nights held at local Aboriginal Medical Services); Aboriginal Elder and community partnerships.

12. Promotion/engagement of health, community and youth services in the school

Presentations by Black Dog Institute; promotion of Headspace; Beyond Blue; Police liaison officer; Royal Life Saving NSW; the University of Newcastle.

13. Additional/enhanced Aboriginal community organizations promoted or engaged

School presence at local Aboriginal Education Consultative Group (AECG) meetings; engagement with the Polly Farmer Foundation.

14. Referral pathways to health, community and youth services developed and promoted

Schools websites and newsletters promoted links to various school-based services (e.g. School Counselling, Year Advisors, School Chaplain, Aboriginal Student Support); and other health, community and youth services (e.g. Kids Helpline, Headspace).

15. Strategies to increase parental involvement in school (e.g. school events)	Parent mentors; expert seminars for parents and school staff on supporting resilience in young people; parent community groups promoted in newsletter.
16. Information regarding student protective factors provided to parents via school newsletter	Newsletters sent home defining resilience protective factors and how to support such factors at home; provision of information via school website.

References referred to in Supplementary Tables

Australian Indigenous HealthInfoNet. (2015). Feeling Deadly Not Shame.   Retrieved from http://www.healthinfonet.ecu.edu.au/key-resources/programs-projects?pid=134

BeyondBlue. (2016). SenseAbility resources.   Retrieved from https://www.beyondblue.org.au/healthy-places/secondary-schools-and-tertiary/senseability/senseability-resources

Brainstorm Productions. (2016). Cyberia: Cyber Bullying Program.   Retrieved from http://brainstormproductions.edu.au/high-school-shows/cyberia

Clontarf Foundation. (2016). Clontarf Foundation.   Retrieved from http://www.clontarf.org.au/

Gadaku Institute. (2016). Rock and Water Program: Lighthouse Education.   Retrieved from https://www.rockandwater.com.au/

Goodman, A., Lamping, D. L., & Ploubidis, G. B. (Producer). (2014, September 2014). Supplementary material (extended 1) to: Goodman, A., D.L. Lamping, and G.B. Ploubidis, A reappraisal of the factor structure of the Strengths and Difficulties Questionnaire (SDQ): Data from British parents, teachers and children. Submitted. *http://www.sdqinfo.com/point_by_point.pdf*. Retrieved from http://www.sdqinfo.com/point_by_point.pdf

Goodman, R., Meltzer, H., & Bailey, V. (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry, 7*(3), 125-130.

Hanson, T. L., & Kim, J. O. (2007). *Measuring resilience and youth development: The psychometric properties of the Healthy Kids Survey* (Issues & Answers Report, REL 2007–No. 034). Retrieved from Washington, DC: http://ies.ed.gov/ncee/edlabs

MindMatters. (2000). *Evaluation Consortium: MindMatters: A mental health promotion resource for secondary schools*. Retrieved from Newcastle:

Queensland University of Technology. (2013, 12th August 2013). Resourceful Adolescent Program.   Retrieved from http://www.rap.qut.edu.au/

Ridgeway, L. (2009). *Bro Speak*. NSW Department of Education. Newcastle, Australia.

Stronger Smarter Institute. (2016). Stronger Smarter.   Retrieved from http://strongersmarter.com.au/

Supportive School Communities (SSSC) Working Group. (2016). Bullying. No way! Safe Australian Schools Together.   Retrieved from https://bullyingnoway.gov.au/SiteInformation/Pages/Contact-Bullying-No-Way.aspx

The Duke of Edinburgh's International Award - Australia. (2016). The Duke of Edinburgh's International Award - Australia.   Retrieved from http://www.dukeofed.com.au/

The Salvation Army. (2016). Positive Lifestyles Program.   Retrieved from http://www.salvationarmy.org.au/en/find-help/Counselling/Positive-lifestyle-program/

Thomas, R., & Thomas, L. (2015). Project ROCKIT.   Retrieved from http://projectrockit.com.au/

WA DoE. (2010). Dare to Lead.   Retrieved from http://www.det.wa.edu.au/aboriginaleducation/apac/detcms/navigation/apac/dare-to-lead/

Wyn, J., Cahill, H., Holdsworth, R., Rowling, L., & Carson, S. (2000). MindMatters, a whole-school approach promoting mental health and wellbeing. *Australian and New Zealand Journal of Psychiatry, 34*(4), 594-601.

Yarnteen Aboriginal & Torres Strait Islanders Corporation. (2016). Yamuloong. *Yarnteen Ltd.* Retrieved from
http://www.yarnteen.com.au/?id=253

YouthInMind (Producer). (2014, September 2014). Scoring the Strengths and Difficulties Questionnaire for age 4-17.
http://www.sdqinfo.com/py/sdqinfo/b3.py?language=Englishqz%28Austral%29. Retrieved from
http://www.sdqinfo.com/py/sdqinfo/b3.py?language=Englishqz%28Austral%29

SUMMARY OF KEY FINDINGS AND IMPLICATIONS

CHAPTER 7

Introduction

This thesis involved three studies that addressed the following aims: to examine the prevalence of mental health problems and the association of such problems with a range of socio-demographic characteristics in a regional sample of Australian adolescents; quantitatively synthesise the international evidence-base for the effectiveness of universal, school-based, resilience-focussed interventions on mental health problems in children and adolescents, and; develop and evaluate a comprehensive pragmatic, school-based, universal, resilience-focussed intervention in secondary schools. This chapter will: summarise the key findings and conclusions of each study; outline the overall limitations and strengths of the thesis, and; conclude with a discussion of a number of implications arising from the work for consideration in future research.

Summary of Key Study Findings

Chapter 2: Mental health problems and associations with socio-demographic characteristics in a regional population of Australian adolescents

Chapter 2 reported findings from a cross-sectional survey in a regional sample of Australian adolescent students undertaken in 2011. Population level data regarding the general mental health status, and the socio-demographic factors associated with the mental health status of adolescents in Australia aged 12–16 years was limited at that time. The study sought to examine both the prevalence of mental health problems, and a range of socio-demographic characteristics associated with mental health problems, in a population of students attending Grades 7 to 10 at secondary schools located in disadvantaged local government areas (a focus consistent with grant funding) in one regional local health district of New South Wales (NSW), Australia. The study assessed

the prevalence of four mental health outcomes using the Strengths and Difficulties Questionnaire (SDQ): total SDQ score, internalising problems, externalising problems; and prosocial behaviour problems (higher scores indicating greater mental health problems for total SDQ, internalising and externalising problem outcomes). The study also examined the associations between these outcomes and five socio-demographic factors: age, gender, Aboriginality, remoteness of residential location, and socio-economic disadvantage.

The study reported data for almost 7,000 adolescents aged 12-16 years and found 19% of students scored 'very high' for mental health problems. This percentage was somewhat higher than results of two other Australian studies both also utilising the SDQ [1, 2]. The study also found female adolescents scored higher than males on the total SDQ score. This finding was consistent with one of the preceding Australian studies [1], but not the other [2]. Further, consistent with both previous Australian studies utilising the SDQ [1, 2], the Chapter 2 study found female adolescents scored higher for internalising problems (such as emotional symptoms) compared to males, and male adolescents scored higher for externalising problems (such as conduct problems and hyperactivity) compared to females. For the final mental health outcome, prosocial behaviour problems, the study found females scored higher than males (higher scores indicating fewer problems for this outcome). This was consistent with the only other study reporting prevalence of prosocial behaviour problems for this age group in a general sample of Australian adolescents [2]. Internationally, research utilising both the SDQ [3] and a range of other measures [4] also provides support for such differences in prevalence of internalising, externalising, and prosocial behaviour problems, by gender. In contrast to international research [5, 6] suggesting poorer mental health in adolescents of lower socio-economic status, the Chapter 2 study was consistent with

previous research in Australia [7-9] in not indicating such a relationship with socio-economic disadvantage nor with geographic location of residence.

Finally, a finding consistent with one national survey utilising the K6 [10] and two other Australian studies utilising the K6 [11] and the SDQ [12], the Chapter 2 study found Aboriginal and/or Torres Strait Islander students (here after referred to as Aboriginal) to score higher across all mental health problem outcomes than non-Aboriginal students. However, as the K6 and SDQ (as with most mental health measures) are tools developed and validated to measure mental health problems in non-Aboriginal samples, results should be considered with caution. Of note, the most recent National Survey of Child and Adolescent Mental Health (2013-2014; Young Mind Matters Survey) did not examine difference in prevalence by Aboriginality as the sample size was considered insufficient, and the authors noted the need for a separate study utilising culturally appropriate methodology [1].

There remains a need for ongoing population level monitoring of mental health problems in children and adolescents for age and gender subgroups and for Aboriginal and non-Aboriginal Australians. To facilitate this, the development of culturally appropriate tools to measure mental health difficulties in Aboriginal children and adolescents is needed.

Chapters 3 and 4: Systematic review of universal resilience interventions targeting child and adolescent mental health in the school setting

Chapters 3 and 4 reported the methodology and results of a systematic review of the effect of universal, school-based, resilience-focussed interventions on mental health problems in children and adolescents. Interventions that target the strengthening of

protective factors central to the concept of resilience are evaluated within many school-based intervention studies internationally. However, the evidence relating to the effectiveness of a universal, school-based, resilience-focussed intervention approach had not previously been comprehensively quantitatively synthesised. Six databases were searched for eligible trials published between 1995 and 2015. Eligible trials were randomised controlled trials or cluster randomised controlled trials of universal, school-based, resilience-focussed interventions (interventions targeting three or more internal protective factors). The volume and characteristics of included trials were described. Meta-analyses were used to examine overall intervention effect by seven mental health outcomes: depressive symptoms; anxiety symptoms; hyperactivity; conduct problems; internalising problems; externalising problems, and; general psychological distress. Additionally, differential effects of interventions were examined by age (child: 5-10 years; adolescent: 11-18 years), length of follow-up (short: immediate post-intervention to ≤12 months; long: >12 months), and gender (narrative synthesis). Additional post hoc exploratory subgroup analyses were conducted to explore differential intervention effect by therapeutic basis (cognitive-behavioural therapy [CBT]-based versus non-CBT-based).

The review identified 57 eligible trials conducted across 16 countries. Twenty-eight trials targeted internal resilience protective factors only, with the remaining 29 trials targeting three or more internal resilience protective factors and at least one external resilience protective factor. Thirty-one trials reported the intervention was based on cognitive-behavioural therapy, with a wide range of approaches utilised across the other studies. Three trials explicitly identified implementing a 'resilience' intervention. All interventions included specified curriculum content that ranged from one lesson per week up to daily lessons, for five to 32 weeks. Two trials included

additional capacity building or social climate components that were implemented for a period of up to three years.

Forty-nine trials contributed to meta-analyses, which indicated resilience-focussed interventions were effective in reducing 4 of 7 outcomes in children and adolescents including: depressive symptoms, internalising problems, externalising problems, and general psychological distress. Subgroup analyses by age indicated resilience-focussed interventions were effective in reducing anxiety symptoms and general psychological distress for children (2 of the 6 outcomes amenable to meta-analysis), and in reducing internalising symptoms for adolescents (1 of 5 outcomes amenable to meta-analysis). Additionally, resilience-focussed interventions were found to be effective at short-term follow-up in reducing depressive symptoms and anxiety symptoms (2 of 7 outcomes amenable to meta-analysis), and at long-term follow-up in reducing internalising problems only (1 of 5 outcomes amenable to meta-analysis). Narrative synthesis of intervention effect by gender largely indicated no differential effect of resilience-focussed interventions across the five outcomes that could be considered. Post-hoc subgroup analysis of intervention effect by therapeutic approach indicated a significant effect for CBT-based resilience-focussed interventions for depressive symptoms, anxiety symptoms and general psychological distress (3 of 7 outcomes amenable to meta-analysis), with no significant effects for non-CBT-based resilience-focussed interventions.

The review highlighted the large number of trials that have applied a universal, school-based, resilience-focussed approach, targeting protective factors in order to impact mental health outcomes. In particular, many trials have targeted the outcomes of depressive and anxiety symptoms (41 and 27 trials respectively). There were sufficient trials to support meta-analyses for these two outcomes, plus externalising problems for

all subgroups specified a priori. However, some subgroup analyses could not be undertaken for the other four outcomes due to limited trials. The review findings suggest that the effect of universal, school-based, resilience-focussed interventions can vary by mental health problem, age group, length of follow-up, and therapeutic approach. Some methodological limitations in the trials were also noted including the lack of measurement of the protective factors targeted in the interventions, and lack of longer term follow-up.

Chapters 5 and 6: A pragmatic, universal, school-based, resilience-focussed intervention for mental health problems in adolescents

Chapters 5 and 6 reported the methodology and evaluation findings of a cluster randomised controlled trial of a pragmatic, universal, school-based, resilience-focussed intervention. The trial involved 32 secondary schools (20 intervention, 12 control) located in socio-economically disadvantaged areas within one local health district in NSW, Australia. The study sought to assess the impact of the intervention on reducing four mental health problem outcomes assessed using the SDQ (total SDQ score, internalising problems, externalising problems, and prosocial behaviour problems) and strengthening internal and external resilience protective factors in secondary school students. The intervention was implemented during Grades 8 to 10 (2012 -2014) and utilised a pragmatic approach [13], used by relatively few trials, which typically gives flexibility to participants to select elements of care or programs to implement that best meet their needs [13-16], and in the school context involves teachers rather than researchers/external agents delivering the intervention [13]. The intervention involved a framework of sixteen broad intervention strategies targeting internal and external

resilience protective factors across the three health promoting schools domains [17]. Based upon advice received from an Aboriginal Cultural Steering Group, Aboriginal specific intervention strategies were included. Schools were asked to meet the prescribed set of sixteen intervention strategies. To assist schools to achieve this, a list of programs and curriculum resources targeting resilience protective factors and recommended to promote mental health in children and adolescents was included in the program manual. In line with the pragmatic approach, schools were given the flexibility to select the specific programs or resources to implement to address each of the strategies. The order and manner by which these were implemented within each intervention school varied.

Student surveys were conducted at baseline in 2011 and at follow-up in 2014 (immediately post-intervention). At follow-up, student self-report data indicated no significant differences between intervention and control groups for three of four mental health problem outcomes: total SDQ, internalising problems, and prosocial behaviour problems. A small difference in favour of the control group was found for externalising problems. Subgroup analyses conducted to examine differential effect of the intervention on mental health problems by gender and baseline mental health problem levels found no significant effects. Similarly, no intervention effect was found for strengthening internal and external resilience protective factors. Process data suggested implementation of intervention strategies was high, but that intervention schools differed from control schools on only one of the 16 broad intervention strategies suggesting that positive mental health and resilience may have been of similar focus in control schools.

Results of previous trials examining the effect of universal, school-based, resilience-focussed interventions on the outcomes of total SDQ, internalising problems,

and prosocial behaviour problems have been mixed. A number of studies also reported null findings [18-20], however other trials have reported some positive effects [21-23]. While previous trials examining intervention effect on externalising problems have reported a mixture of null and positive results, none have reported a result in favour of the control group [19, 21, 23, 24]. The magnitude of the effect was small and unlikely to be clinically meaningful. In addition, there was no plausible mechanism for the resilience-focussed intervention to have a negative impact on student externalising problems. Similarly, although there appears to have been few randomised controlled trials of universal, school-based, resilience-focussed interventions targeting mental health outcomes to have utilised a pragmatic intervention approach, results have been mixed (e.g. [14-16, 25]).

Further, the study found no effect of intervention for internal and external protective factors. Results of previous trials with an intervention focussed on both internal and external protective factors, and a measure of the targeted protective factors, have been mixed. Notably, in those trials reporting positive effects for at least one protective factor, these effects did not consistently align with positive effects for mental health outcomes [26-31].

A number of possible explanatory factors pertaining to the null results of the trial were considered. These included: utilisation of a pragmatic intervention approach that may have resulted in inconsistent strategy implementation across intervention schools, and; contextual changes in policy and practice across the broader school system [32, 33]. The study highlighted the challenge associated with designing a universal, school-based, resilience-focussed program that can prevent mental health problems in adolescents, especially with a pragmatic approach. The work also pointed to the

importance of understanding whether changes in mental health outcomes reported within trials can be attributed to changes in the targeted protective factors.

Limitations

A number of limitations should be acknowledged with respect to the studies comprising the current thesis. Firstly, the prevalence and intervention studies (Chapters 2, 5, and 6) were conducted within socio-economically disadvantaged high schools, in one regional local health district of NSW, Australia, placing some caveats around the generalisability of the findings. The prevalence study utilised the study sample obtained to conduct a randomised controlled trial of a resilience-focussed intervention, rather than a sample drawn for assessing prevalence. While the characteristics of the Chapter 2 study sample were found to be comparable to the larger study region with respect to level of socio-economic disadvantage, remoteness of residential locations, gender, and Aboriginality, both the study sample and study region reflected a lower index of socio-economic status, a higher proportion of Aboriginal students, and a higher proportion of young people who resided in non-metropolitan areas as compared to both the state of NSW and the country of Australia.

A second limitation arises from a reliance on adolescent self-report of mental health problems for both the prevalence study and intervention trial. Whilst self-report is accepted as appropriate for large studies and research generally supports the use of self-report in adolescents for internalising behaviours, for more observable externalising behaviours reliance on self-report measures alone may result in the under-reporting of problems [34]. Thirdly, students at higher risk of mental health problems may have been less likely than other students to participate in the study reported in Chapter 2, potentially leading to underestimates of mental health problems. Similarly, students

who did not participate in the intervention trial measures, including those lost to follow-up (~30%) due to absence or leaving school, were significantly different to those who remained in the study (higher total SDQ score, externalising and internalising problems scores, lower prosocial behaviour score, and lower mean scores for internal and external resilience protective factors) and may have influenced the trial results – potentially narrowing the student group to which results apply, reducing the overall prevalence found, and potentially impacting ability to determine intervention effect. For the intervention trial however, intention-to-treat analysis with imputation of missing data indicated no change in results, perhaps lessening concern about the impact missing 'loss to follow-up' data may have had on the assessment of intervention effect.

Finally, as noted in Chapters 2 and 6, the large majority of mental health related measurement tools are developed and validated with non-Aboriginal people [35, 36], which may not be appropriate or accurate measures of mental health and wellbeing in Aboriginal people [35, 37]. This is particularly important when research is undertaken in areas such as the local health district in which the thesis studies were undertaken, within which a higher proportion of Aboriginal young people (10-19 years; 11%) reside compared to the state of NSW (5%)[38] and to Australia (6%) [39, 40].

Strengths and Key Contributions to the Field

The study described in Chapter 2 assessed prevalence across a range of mental health problems and examined differences by age, gender, socio-economic disadvantage, and remoteness of residential location, as well as for Aboriginal and non-Aboriginal adolescents. Previous population prevalence studies, including the most recent national survey (2013-2014) of child and adolescent mental health in Australia, have been

constrained in their capacity to undertake such comparisons due to a limited number of Aboriginal participants [1].

The large systematic review (Chapters 3 and 4) was the first to use meta-analyses to undertake a comprehensive quantitative synthesis of evidence on the effect of multiple universal, resilience-focussed, school-based interventions on a range of mental health outcomes. The review examined: the overall effect of such trials on seven mental health problem outcomes in children and adolescents 5-18 years; the potential benefits of implementing resilience-focussed interventions in childhood and adolescence, and; short- and long-term benefit. The existing evidence base was further expanded through narrative review of intervention effect by gender and post-hoc subgroup meta-analyses by therapeutic approach.

Finally, the intervention trial (Chapters 5 and 6) is one of few randomised controlled trials of universal, school-based, resilience-focussed interventions to adopt a pragmatic approach (e.g. [14-16, 25]), allowing school selection of programs or resources for implementation. Such an approach offers the advantage of tailoring content to increase acceptance, ownership and applicability to local contexts, and potentially supports scalability and sustainability of interventions [16, 41-44]. Further, the intervention trial measured targeted internal and external protective factors, the proposed mechanism of change. Additional strengths included: intervention strategies to strengthen both internal and external resilience protective factors across the Health Promoting Schools Framework; incorporation of implementation support strategies; a multi-year intervention period (implemented during Grades 8 to 10, 2012 to 2014) and follow-up of students 3 years from baseline; measurement of four mental health problem outcomes; consideration and implementation of Aboriginal specific strategies,

and; retention of a large sample that enabled additional examination of differential intervention effect by gender and level of baseline mental health problems.

Implications for Research

The findings reported in Chapters 1 and 2 supported the need to address mental health problems among young people, and the proposition that interventions focussed on building resilience through strengthening protective factors may offer the potential to do so. The synthesis of past universal, school-based, resilience-focussed interventions (Chapters 3 and 4) indicated some positive effects for depressive symptoms, anxiety symptoms, internalising problems, externalising problems, and general psychological distress. The intervention trial (Chapters 5 and 6) however did not find an effect of the pragmatic intervention on the mental health problem outcomes measured, nor on the internal and external protective factors suggested to be the mechanism of effect. The findings of the studies described in this thesis provide an opportunity to identify a number of future research directions that may meaningfully add to the evidence base.

1. **Measurement and monitoring of the prevalence of mental health problems in children and adolescents**

    1.1. **A need for ongoing national surveys and the identification and use of quality measurement tools**

As noted in Chapter 2, monitoring mental health problems among children and adolescents at a population level is important in order to understand the prevalence of mental health problems over time, and differences according to age, gender and other subgroups [45]. A number of developed countries, including the United Kingdom [46, 47] and United States [48], have nationally representative surveys including measures

of child and adolescent mental health conducted at regular intervals. Within Australia, there have been two nationally representative cross-sectional surveys of mental health problems (1998 [49], 2013-2014 [1, 50]) and whilst no clear indication of the likely frequency of future surveys could be located, their value has been noted [50].

Whilst national surveys offer the potential to establish normative population level mental health data and enable cross country comparisons [51, 52], a wide range of tools are used to assess child and adolescent mental health problems at a population level [51, 53, 54]. This variability creates difficulty in cross country comparisons and the pooling of international data sets [53]. Systematic reviews have summarised the psychometric qualities of measurement tools for several mental health outcomes, and may inform the selection of common measures. Deighton et al., (2014), identified 11 self-report measures of general psychological distress in children and adolescents with adequate psychometric properties and suitability for use in routine clinical practice and for national benchmarking [55]. Stockings et al., (2015), identified 17 scales employed in trials of preventive interventions to measure symptoms of depression in children and adolescents [56]. Meta-regression comparing the five most commonly utilised scales indicated good overall internal consistency and moderate diagnostic accuracy, suggesting such scales to be valid and reliable measures of depressive symptoms [56]. The review noted the potential utility of items from included scales for use in population level surveys, and a need for further research examining the predictive ability of scales [56]. Seligman et al., (2004), reviewed the utility of three commonly employed measures of anxiety for children and adolescents [57]. A meta-analysis from 43 trials indicated evidence of good discriminate ability, existing normative data, and usefulness for clinical and research purposes [57]. However, the authors noted an

insufficient number of trials reporting reliability estimates to enable meta-analysis of this property, and highlighted a need for future studies to include reliability data [57].

1.2. A need to monitor mental health in specific population groups

As noted in Chapter 2, data from national surveys is commonly reported for subgroups such as age and gender, however less so for other variables. Additionally, the reviews undertaken by both Deighton et al., (2014), and Seligman et al., (2004), mentioned above, noted limited evidence of testing of measurement tools for bias or differential performance for different population subgroups (e.g. by ethnicity, lower socio-economic status, remoteness of residential location) [55, 57]. Stockings et al., (2015), did test for difference in psychometric properties of scales for depressive symptoms by age (child; adolescent) and other qualities (e.g. type of sample: clinical/nonclinical), noting no difference in quality of tools by such factors [56].

Assessment of prevalence in small or harder to reach population subgroups in national surveys presents a challenge. The resource required to oversample subgroups with small population representation may be prohibitive [51]. However, inclusion of such groups to a level that enables estimates of prevalence within subgroups offers an opportunity to obtain more comprehensive data [51]. Within Australia, as noted in Chapter 2, the sample of Aboriginal children and adolescents in previous national surveys has been too small to allow data for this group to be examined [1]. Given the considerable inequity in mental health and many other health indicators between Aboriginal and non-Aboriginal Australians, the importance of data for this group is high [58].

The challenge of accessing a sample of Aboriginal people of sufficient size in a culturally appropriate way, has led to separate surveys for Aboriginal and non-

Aboriginal people being undertaken [1, 59, 60]. The Footprints in Time: Longitudinal Study of Indigenous Children (LSIC) commenced in 2008 [61] and follows 11 cohorts of Aboriginal children (6 months to 5 years) from sites located across Australia [61] utilising the SDQ to measure social and emotional wellbeing [62]. Methodology was developed through consultations with Indigenous communities, organisations and service providers across Australia [61].

There is also a need to examine the cultural appropriateness, relevance, validity and reliability of existing measures of mental health with Aboriginal samples and/or develop new culturally appropriate tools [63]. To date most surveys have used existing tools developed for non-Aboriginal Australians (e.g. the K6 [10, 11] and SDQ [64]). Research suggests there are fundamental differences in the concept of mental health for non-Aboriginal and Aboriginal people [37]. For example, the term 'social and emotional well-being' (SEWB) has been used to describe the mental health of Aboriginal people, as it is a broad holistic term incorporating both individual factors and wider factors such as cultural identification, spirituality, and the community [12, 65]. Further work is required to assess whether measures such as the K6 and SDQ meet the needs of Aboriginal children and adolescents, with some work of this nature in progress for the SDQ ([66-68] as noted in Chapter 2). Alternate measures, developed specifically for Aboriginal children and adolescents should also be considered, for example the Strong Souls assessment tool developed for measuring SEWB in Aboriginal young people [69]. The development of appropriate tools to measure the mental health of Aboriginal children and adolescents should be completed through processes that are ethical with Aboriginal people included as central to the development process [36, 70].

In summary, it is important that researchers employ measures with sound properties that allow for large-scale population level measurement of prevalence. Greater commonality in measures used, and standard indicators of mental health problems, could assist cross country comparability and pooled analysis of international data sources [53]. Leadership from bodies such as the World Health Organisation (WHO) may assist in establishing these [51]. Additionally, regular large-scale, cross-sectional surveys assessing prevalence of mental health problems in children and adolescents should include reporting of results by subgroups of the population and there is a need for further work examining the psychometric properties of measurement tools for use in subgroups. Within the Australian context, a need for further development and use of culturally appropriate tools for Aboriginal children and adolescents is evident.

2. Enhancing understanding of how resilience protective factors relate to mental health problems in children and adolescents

Many protective factors have been suggested to contribute to building resilience and/or preventing mental health problems among children and adolescents [44, 71-92]. For example, in undertaking the systematic review in Chapter 4, a list of 31 internal and external protective factors was compiled from research published by eminent resilience and mental health researchers [44, 71-82, 84, 91, 92] (Table 1). This list is not assumed to be complete or 'gold standard', but did serve as a tool for classifying the multitude of factors targeted by resilience-focussed interventions. The review process highlighted the heterogeneity of factors targeted, with 26 protective factors (16 internal and 10 external) targeted across the 57 included trials – with up to 10 internal and 6 external factors targeted per included trial. During the preparation of this Discussion chapter, a key

agency for advancing mental health in Australia, *beyondblue*, released a document to guide practitioners in building resilience in children [90]. A list of 24 factors considered to build resilience in children was developed from a non-systematic literature review of 13 key publications, and through consultation with practitioners, children and parents [90]. The factors are described in domains referred to as 'within the child' (internal factors), 'within the family', 'within the community and society', and 'within the family, community and society' (external factors) (Table 1).

To inform recommendations regarding which protective factors, from among such lengthy listings, should be the target of preventive interventions, there is a need to understand the relative strength of their associations with mental health outcomes. While the WHO has suggested factors targeted in prevention programs should be evidence based [89], they provide little detail on the evidence base or process behind the selection of factors. In addition to the above mentioned list of factors, the recent Australian *beyondblue* publication provides a further listing of 31 factors, identified through a Delphi process with 25 experts, that are suggested to be those on which resilience programs should focus [90]. Although some details of the process employed during the Delphi procedure were lacking, the 31 factors listed were those with at least 70% agreement between the 25 experts, 10 of which had 100% agreement (Table 2) [90]. However, the authors acknowledged a continuing inability to determine the relative merit or likely impact to be achieved through electing to focus on any one protective factor over another [90].

Table 1. Factors relating to resilience developed from a literature review and/or consultation process

Protective factors for resilience utilised in Chapter 4 (literature based) [44, 71-87, 91, 92]	Factors that build resilience identified by *beyondblue* (literature and consultation based) [90]
Internal protective factors	*Factors within the child*
1. Cognitive competence	1. Genetic and biological factors
2. Cooperation and communication	2. Positive self-esteem
3. Coping	3. Positive self-talk/self-compassion
4. Emotional regulation	4. Autonomy/independence
5. Empathy	5. Ability to identify/articulate emotions
6. Empowerment	6. Self-regulation
7. Goals and aspirations	7. Confidence/self-competence
8. Moral competence	8. Social skills and empathy
9. Problem solving/decision making	9. Optimism/positive attitude
10. Spirituality	10. Sense of responsibility/connection to family/community
11. Self-control	11. Healthy thinking habits
12. Self-efficacy	*Factors within the family*
13. Self-esteem	1. Positive family relationships
14. Self-regulation	2. Family identity/connectedness
15. Self-awareness	3. Effective parenting
16. Social and emotional competence	*Factors within the community and society*
17. Social and emotional skills	1. Peer connections/interactions
External protective factors	2. Education settings providing positive encouragement/positive relationships
1. Community adult high expectations	3. Socially inclusive, and family/child friendly community values/beliefs
2. Community caring relationships	4. Socially inclusive, and family/child friendly spaces
3. Community meaningful participation	5. Socially inclusive, and family/child friendly public policies
4. Community support	*Factors within family, community, and society*
5. Home adult high expectations	1. Opportunities for healthy risk taking
6. Home caring relationships	2. Opportunities for positive experiences
7. Home meaningful participation	*3.* Ongoing, meaningful relationships with ≥1 significant supportive adult who the child can talk to (e.g. family member, teacher, community mentor)
8. Home support	
9. Peer caring relationships	
10. Pro-social peers	
11. School adult high expectations	
12. School caring relationships	
13. School meaningful participation	
14. School support	

Table 2. Factors identified for focus in resilience interventions developed from expert consensus using a Delphi process [90]

Level of consensus	Factor
100% consensus	1. Family cohesion 2. Family environment 3. Peer relationships 4. Pro-social skills and empathy 5. Positive coping skills 6. Self-regulation 7. Sense of agency 8. Self-reflection 9. Problem-solving 10. Self-efficacy
91-99% consensus	1. Social connectedness 2. Extra familial support (sports/community groups) 3. Planning 4. Self-compassion 5. Sense of meaning and purpose 6. Optimism 7. Hope 8. Positive emotional experiences 9. Environmental resources
81-90% consensus	1. Sibling relationships 2. Cultural connectedness 3. Locus of control 4. Sense of coherence 5. Mindfulness 6. Perseverance 7. Mastery experiences 8. Cultural identity
71-80% consensus	1. Mentors 2. Humour 3. Physical activity 4. Talents and interests

The following sections examine two possible sources of evidence around the strength of associations between protective factors and mental health outcomes. Section 2.1 explores systematic reviews specifically examining associations between mental

health problems and protective factors. Section 2.2 considers the results of trials included within the systematic review reported in Chapter 4, with a focus on whether changes in protective factors were achieved, and whether changes in mental health outcomes were associated with, or mediated by, changes in specific protective factors.

2.1. Evidence contributed by systematic reviews examining associations between mental health problems and protective factors

A search for systematic reviews published in the last decade (2007-Dec 2017) that had specifically attempted to consolidate evidence on associations between protective factors and mental health outcomes in children and adolescents was undertaken. PsycINFO, Medline and Embase databases were searched for review publications, using combinations of key words reflecting resilience, protective factors, mental health, and children and adolescents. Four relevant publications were identified [93-96]. A summary of the mental health outcomes and factors examined in each review, type of included studies, and the findings by method (i.e. meta-analysis or narrative synthesis of included study results) is shown in Table 3.

For the three reviews focussed on an outcome of depression, two examined evidence for a single protective factor (see Table 3). Stirling et al., (2015), [94] found no significant association between community connectedness and depressive symptoms [94]. Gariepy et al., (2016), found a significant association between low social support and depressive symptoms [95]. The third review, Cairns et al., (2014), indicated a sound or emerging evidence base for eighteen protective factors, with significant but modest effect sizes indicated (see Table 3) [93]. Hence, across these reviews, for depression, evidence was provided for a number of factors aligning with those included in Tables 1 and 2, including: positive and negative coping strategies [93]; relationships with

positive peers [93]; self-disclosure to parents [93]; sport and physical activity [93]; and social support [95]. However, evidence was also provided for other factors outside of the framing of resilience presented in Tables 1 and 2, such as: substance use, dieting, weight, sleep, dating during adolescence, and media use [93].

The fourth review, by Brumley & Jaffee, (2016), focussed on the outcome of externalising problems, used narrative synthesis, and indicated some evidence of association for 25 of 48 examined factors [96] (see Table 3). Evidence was indicated for a small number of factors that aligned with a resilience framework (according to the listings in Tables 1 and 2) including: ability to refuse engaging in antisocial behaviour, family management and functioning, relationships with prosocial peers, and school attachment/connectedness [96]. However, evidence was also provided for other factors outside of this framing, such as: intelligence, sustained attention, verbal and visual memory, personality characteristics, house quality, and availability and exposure to illicit substances [96].

Table 3. Systematic reviews examining associations between mental health problems and protective factors

Review/ Mental health outcome	Type and age range of included studies/ Analysis	Included factors
Stirling et al., 2015 [94] Depression	18 cross-sectional and 3 cohort studies, children and adolescents (4 to 18 years) Meta-analysis	*Protective factor* 1. Community connectedness[N]
Gariepy et al., 2016 [95] Depression	18 cross-sectional and 13 cohort studies, children and adolescents (8 to 20 years) Meta-analysis	*Protective factor* 1. Low social support**
Cairns et al., 2014 [93] Depression	69 prospective cohort studies, adolescents (12 to 18 years) Meta-analysis, evidence summarised into sound, emerging, minimal or insufficient	*Risk and protective with sound evidence base* 1. Positive coping strategies** 2. Negative coping strategies** 3. Alcohol use (frequency)** 4. Alcohol use (quantity) ** 5. Cannabis use** 6. Dieting** 7. Healthy dieting** 8. Other illicit drug use** 9. Polydrug use** 10. Sleep** 11. Tobacco Use** 12. Weight** *Risk and protective factors with an emerging evidence base* 1. Relationships with positive peers** 2. Sport** 3. Physical activity** 4. Self-disclosure to parents** 5. Dating during adolescence** 6. Media use** *Risk and protective factors with minimal evidence/too few studies for evidence synthesis* 1. Extra-curricular activities[N] 2. Private religious observance 3. Public religious observance 4. Part-time employment 5. Positive emotion regulation strategies

Review/ Mental health outcome	Type and age range of included studies/ Analysis	Included factors
		6. Negative emotion regulation strategies 7. Early moving out *8.* Early sex
Brumley & Jaffee, 2016 [96] Externalising problems	60 longitudinal studies, children and adolescents (year range not provided) Narratively summarised quantitative association analysis results of included studies	*Individual protective factors* 1. Self-esteem/self-confidence 2. Interpersonal callousness* 3. Ability to refuse engaging in antisocial behaviour* 4. Involvement in prosocial activities 5. Attitudes toward delinquency* 6. Intelligence* 7. Academic achievement 8. Academic aspirations for higher education* 9. Sustained attention* 10. Delayed verbal memory* 11. Delayed visual memory* 12. Attention problems* 13. Difficult temperament/surgency* 14. Easy temperament/effortful control* 15. Shyness* 16. Depression* *Family protective factors* 1. Family management* 2. Family functioning* 3. Family cohesiveness 4. Parental stress* 5. Parent-child relationship quality 6. Attachment/closeness to parent 7. Perceived acceptance by parent 8. Positive parenting (global measure) 9. Parental warmth 10. Parental sensitivity 11. Parental empathy 12. Parental monitoring 13. Parental responsiveness 14. Parental involvement 15. Parental supportiveness 16. Parental overprotection* 17. Parent disapproval of antisocial behaviour 18. Maternal socialisation of coping 19. Maternal self-esteem 20. Grandmother involvement *Peer protective factors* 1. Delinquent peer affiliations*

Review/ Mental health outcome	Type and age range of included studies/ Analysis	Included factors
		2. Relationships with prosocial peers*
		3. Ability to get along with peers*
		4. Well-liked by peers
		School protective factors
		1. School attachment/connectedness*
		2. Attitudes towards school*
		3. School commitment
		Neighbourhood protective factors
		1. Social cohesion
		2. Collective efficacy
		3. Housing quality*
		4. Community crime
		5. Perceived availability and exposure to marijuana*

[N]Factors for which meta-analysis indicated no significant association with mental health outcome; **Factors identified as related to mental health outcomes using meta-analysis; *Factors for which some evidence of association with mental health outcomes was noted using narrative summary of included study results.

2.2. Evidence contributed by trials included in the Chapter 4 systematic review

Although the systematic review presented in Chapter 4 did not specifically focus on whether the targeted protective factors were measured or changed in response to the intervention, this data was extracted. Of 57 trials, 37 (65%) included a measure of at least one protective factor (see Table 4); and of these 37 trials, 21 (57%) reported change in at least one factor. Eighteen of 37 trials (49%) had a positive impact on at least one mental health outcome, with 14 (78%) of these also showing a positive effect on at least one protective factor. However, protective factors targeted by the intervention did not always align with those measured in the trial and, overall, trials only measured a portion of all targeted protective factors (see Supplementary Table 1). The overview outlined in Table 4 may, at least indirectly, suggest a higher likelihood of positive intervention effect on mental health outcomes when a positive change in protective factors is also achieved.

Of the 37 included trials that measured protective factors, 2 trials [97, 98], included a mediation analysis (Table 5). In intervention research, mediation analysis can enable the investigation of whether factors considered causally linked to an outcome, and therefore targeted in an intervention, do mediate the intervention effect on the dependent outcome as hypothesised [99]. As such, mediation analysis allows investigation of 'how' interventions work [99]. The positive results of the mediation analysis in one of the two trials [97] reinforces the potential for change in protective factors to mediate change in mental health outcomes. Finally, evident when comparing Tables 1 through 3, whilst all sources of evidence reviewed can be grouped within a mental health context, terminology used to identify seemingly similar factors varied (e.g. family cohesiveness vs. family cohesion, delinquent peer affiliations vs. relationships with prosocial peers, social connectedness vs. social support), as did

domains used to organise factors (e.g. internal, external, individual, family, peer, school, neighbourhood, social). Such differences in terminology introduced a need when comparing sources of evidence to apply a level of subjectively in order to compare potentially 'like' factors, and introduced an added layer of difficulty in drawing conclusions.

In summary, the brief review of various sources of evidence undertaken here highlighted an extensive list of factors. From systematic reviews, evidence of association was identified between mental health outcomes and some factors that aligned with the lengthy listings of resilience protective factors outlined in Tables 1 and 2, as well as some outside of lists developed from a resilience protective factor framework. Reviews that include quantitative synthesis for a range of factors and grade level of evidence appear of particular value for identifying factors with the strongest evidence-base to target in preventive interventions. Additionally, this preliminary investigation highlighted the need to, and value in, measuring all targeted protective factors in future research. While such comprehensive measurement may need to be weighed against burden on participants, if feasible it could potentially progress knowledge of the mechanism of intervention effects considerably (e.g. through mediation analyses). Further application of mediation analysis in future trials, inclusive of a larger range of protective factors and mental health problem outcomes, is likely to provide a stronger sense of whether protective factor change drives intervention effects on mental health outcomes, and be helpful in identifying critical elements for inclusion in resilience-focussed programs. Greater consistency in terminology for seemingly similar concepts, whilst difficult, could make research comparison and synthesis easier.

Table 4. Summary of results of included trials from the Chapter 4 review that included a measure of protective factors (PFs)

	Positive MH[a]	Null MH[b]	Total
	n	n	n (%)
All mental health (MH) outcomes			
Positive PF[c]	14	7	21 (57)
Null PF[d]	4	12	16 (43)
Total n	18	19	37 (100)

[a, b] Positive or null intervention effect relative to a control or alternate intervention deemed 'equivalent' to a control, for measured mental health outcome(s), respectively; [c, d] Positive or null intervention effect relative to a control or alternate intervention deemed 'equivalent' to a control, for at least one measured protective factor, respectively.

NB: The data displayed in this table was similar when only examining trials with the outcome of depressive symptoms, the most commonly measured outcome across included trials.

Table 5. Summary of Chapter 4 included trials that incorporated mediation analysis

Study	Mental health (MH outcome	Summary of intervention effects	Protective Factors (PFs) targeted	PFs included in mediation analysis	Mediation analysis results
Essau 2012 [97]: Sample size: n=638 Mean age: 10.9 years Intervention length: 26 weeks	Anxiety symptoms	*MH* Significant intervention effects for anxiety symptoms at post-intervention, 6 and 12 month follow-up. *PFs* Significant intervention effects for perfectionism, coping, and social and adaptive functioning, however not for social skills.	Empathy, cognitive competence, coping, problem solving/decision making, goals and aspirations.	1. Perfectionism* 2. Coping 3. Social skills* 4. Social and adaptive functioning*	Perfectionism and coping acted as mediators of change in pre- to post-test anxiety symptom scores. Non-significant for social skills and social and adaptive functioning.
Horowitz 2007 [98]: Sample size: n=380 Mean age: 14.43 years Intervention length: 8 weeks	Depressive symptoms	*MH* Positive intervention effect for depressive symptoms at post-intervention, not sustained at 6-month follow-up. *PFs* Significant intervention effect for cognitive competence. No significant effects for coping and quality of parent-child relationships.	Goals and aspirations, cognitive competence, problem solving/decision making, coping.	1. Attributional style (Cognitive competence) 2. Coping 3. Quality of parent-child relationships*	Non-significant results for mediation analysis.

*Measured and included in mediation analysis however not targeted in intervention.

3.   A need to conduct quality intervention trials to optimally inform the field

The review reported in Chapter 4 does suggest that across child and adolescent trials collectively, universal programs that target protective factors can have a positive impact on mental health outcomes. It seems likely, and perhaps not inappropriate, that there will continue to be growth in the number of trials being undertaken using this approach. The context within which future trials will be undertaken is one where education frameworks and mental health policies in Australia [33, 100] and internationally [101-103] already recommend universal preventive programs to target a range of factors to promote mental health for children and adolescents within the school setting. Such recommendations are being actioned and there are a range of programs to promote mental health currently in place in schools [104-107], with some explicitly incorporating building resilience [32, 33, 102, 108-110].

Given the likely expansion of research in this area and the ongoing implementation of programs in school settings to improve mental health, there is an imperative to ensure future trials or program evaluations are of sound quality in order to optimally inform the field. A number of selected considerations and recommendations pertaining to the conduct and methodological rigour of future trials, evident from the study findings in this thesis, are outlined below.

3.1 Provide clarity and rationale for conceptual underpinning and intervention content

It is apparent that there is no single, common understanding of what constitutes a 'resilience intervention' per se. Few of the trials in the Chapter 4 review explicitly stated that the intervention was resilience-focussed [26, 91, 111], and the factors targeted in those trials that identified resilience as their frame were not readily

distinguishable from those that did not. The body of literature reporting on trials that have targeted multiple protective factors, in an array of combinations, is large. A recent attempt within the Australian context to synthesise the 'evidence' from literature and expert opinion in order to provide guidance for 'practice', concludes that there is no or little basis on which to recommend one particular factor, or combinations of factors, as necessarily more important to focus on compared to others [90]. The above brief attempt to identify such evidence within previous systematic reviews and trials included in the Chapter 4 review found somewhat stronger evidence for a small range of factors compared to others, however ultimately noted limitations of the current evidence-base, still largely allowing no concrete recommendations regarding what protective factors may enable greatest impact on particular mental health problems. In general, many trials included in Chapter 4 did not provide a clear rationale for the chosen conceptual underpinning, nor a rationale or evidence-base for the protective factors chosen for targeting within the intervention. The clarity and quality of literature in the field would be improved if authors specified the protective factors being targeted in the intervention and the rationale and evidence-base for doing so, including specification as to whether change in protective factors is the proposed mechanism for change in mental health.

In addition, when designing future interventions, it is important to consider who will be the 'driver' of intervention implementation. Strategies are emerging for supporting schools to lead and sustain implementation [112], and education and funding bodies are increasingly interested in applicability of programs to 'real world' contexts [42]. It has been suggested that pragmatic approaches may offer advantages including the potential to better tailor interventions to local needs [13], and allow flexibility in implementation to enable integration of intervention strategies with normal practices and support sustainability [113]. However, such approaches may also entail challenges,

such as difficulty in sufficiently defining interventions so that there is a clear understanding of the expected intervention content and intensity of delivery [13, 113]. It was posited that such challenges may have contributed to the null findings in the current trial (Chapter 6). There have been relatively few trials that have utilised a pragmatic approach, and further research is required to allow a considered assessment of their relative advantages and disadvantages [42].

3.2 Ensure sound mental health outcome measurement and reporting

It is desirable that measures of the mental health outcome have a number of characteristics, such as: adequate psychometric properties, including sensitivity to detect change of a magnitude likely to occur as a result of the intervention [55]; adequate utility and feasibility for the contexts of use, which may include administration by those without clinical knowledge or by modes such as internet, and; appropriateness for the characteristics of the target population, such as age or cultural considerations.

To maximise knowledge of the trajectory of intervention effects on mental health problems, multiple measurement points are important, including measurement points that extend beyond the length of the active intervention [114, 115]. In the Chapter 4 review, 47 of the 57 trials (82%) included one or more additional measurement points beyond immediate post-intervention. However, the largest portion of the 47 trials included follow-ups of less than 9 months post-intervention (49%). The intervention study in Chapter 6 did not report follow-up beyond immediate post-intervention. This was influenced by funding limitations and the null findings. The measurement of prevalence of mental health problems at more frequent time points during implementation of the intervention may have been valuable in understanding developmental trends and detecting possible shorter term changes in intervention

outcomes. Longer-term follow-ups can be difficult within the school setting as it has implications for measurement burden on participants, and challenges in tracking students as they transition through education stages (e.g. primary to secondary school), as well as an increase in costs and resources required. However, longer term follow-up can facilitate assessment of possible unanticipated harms [115], investigation of potential need and appropriate timing for intervention 'booster' sessions [116], and provide accurate cost and health economic evaluations [117]. Consideration of how longer points of follow-up may be more regularly incorporated into trials would be valuable.

Additionally, it is valuable for researchers to adopt measurement and reporting practices to facilitate inclusion of their trial results within systematic reviews utilising meta-analysis. Meta-analysis is advantageous over narrative synthesis as it allows the quantitative consolidation of large, and often complex, research findings [118, 119]. To ensure the trial data can be included in future meta-analysis, it is important to consider choice of measurement tool in light of the type of data that will be produced. Direction of scale and the type of score produced (e.g. continuous, dichotomous) are qualities of measurement tools that should be contemplated. In the Chapter 4 review, data from 8 of 57 included studies was not suitable for inclusion in meta-analysis. Two studies were not suitable due to the type of outcome (conversion of dichotomous outcomes to continuous measures for inclusion in meta-analysis remains problematic [120-122]), and 6 incompletely reported the required data. Additionally, only nine of the 45 cluster randomised controlled trials (C-RCTs; 20%) reported an intra-class correlation (ICC) co-efficient. As a result, in order to complete meta-analysis on all 45 C-RCTs, the nine reported ICC estimates were applied to similar outcomes across the remaining 36 trials. Exclusion of trials due to missing data, and the need to use an estimation of ICCs

increases the likelihood of bias and reduces the precision of meta-analysis estimates. Therefore, it is recommended that researchers use practices consistent with minimal standards of reporting such as the Consolidated Standards of Reporting Trials (CONSORT) Statement [123, 124] to ensure all appropriate summary statistics (e.g. means, standard deviation, ICCs) are reported, and enable inclusion of study findings in meta-analysis.

3.3 Ensure sound protective factor measurement and reporting

As discussed in section 2.2 (Chapter 7), there is value in ensuring that measures of protective factors are included at baseline and all subsequent follow-ups if possible, and that the protective factors measured align with those targeted in the intervention. Further, as for mental health outcome measures, it is important to consider whether the protective factor measure has reasonable psychometric qualities. In a 2011 systematic review, Windle et al., examined the psychometric properties of 15 resilience measurement scales. Six of fifteen scales were developed for use with children and adolescents (including the California Healthy Kids Survey (CHKS) used in Chapters 2 and 6 [125]), and received low ratings for psychometric quality [125]. Only five of fifteen measures (including 4 of the 6 developed for children and adolescents) examined protective factors related to resilience across multiple levels (e.g. personal/individual, family and community) [125]. Data regarding sensitivity to change was available for only one of fifteen measures (0 of 6 child and adolescent measures) [125]. The development of tools to more accurately and reliably measure resilience protective factors - and to measure change in such factors within intervention trials – would be beneficial [71].

3.4 Examine differential intervention effect for subgroups

Conducting moderator analysis allows investigation of who the intervention may provide greatest preventive benefit to, as well as whether the intervention may have unforeseen adverse effects for some subgroups of the target population [116]. It may be helpful to investigate intervention effects (on both mental health outcomes and protective factors) for subgroups within the target population. This may have particular benefit for those identified in previous research as experiencing inequity in the prevalence of key outcomes of interest.

Of the 57 trials included in the Chapter 4 review, three reported findings of a moderator analysis [126-128], investigating differences in intervention effect on mental health outcomes by baseline level of protective factors. Two trials included the outcome of depressive symptoms [126, 128], and the third trial included both anxiety and depressive symptom outcomes [127]. Across these trials: students with poorer family functioning/relationships (external factors) at baseline showed greater reductions in anxiety and depressive symptoms at follow-up [127]; students with lower self-efficacy (internal factor) at baseline showed greater reductions in depressive symptoms at follow-up [163], and; in the third trial, no significant results were found for the factors of self-efficacy, optimism, and coping (internal factors) in relation to depressive symptoms [126]. Such results attest to the potential for differential intervention effect and demonstrate potential for increased richness of data when subgroup analyses are incorporated.

Conducting moderator analysis in future trials will require their incorporation in a priori power calculations. While low frequency counts for some groups (e.g. Aboriginal children and adolescents) at individual trial level may potentially restrict completion of moderator analysis or render them as exploratory, where possible reporting of such subgroup data offers potential for trials to contribute to meta-analysis

of intervention effect by subgroup in systematic reviews.

In summary, evident from the findings of this thesis, there are a number of considerations and recommendations pertaining to the conduct and methodological rigour of future trials. Whilst many intervention trials have been and likely will continue to be undertaken in this area, it is important that they are undertaken utilising rigorous methodology if knowledge in the field is to take substantive steps forward. The particular issues and recommendations discussed above - including clarity around underpinning conceptual issues, sound measurement of both mental health and protective factor outcomes, and incorporation of sub-group analyses where possible - represent some important issues to consider and potential opportunities for improvement.

Conclusions

Overall, application of the concept of resilience within the school setting in recent decades, and the expansion of the related research field, suggests likely continued growth in the development and implementation of universal, school-based, resilience-focussed interventions, with the possibility of larger scale roll-outs. Given this, it is important that researchers work towards being able to accurately measure mental health in children and adolescents, to aid continued population level monitoring of mental health, and robust measurement in research trials. To better inform intervention content, it is important that researchers work towards improving the understanding of the relationship between protective factors and child and adolescent mental health outcomes, through: improved measurement of protective factors in intervention trials; continued reporting and review of evidence of association between protective factors and mental health outcomes, and; incorporation of mediation analysis within intervention trials. There is a need for further rigorous trials of resilience-focussed

approaches based on such evidence of association, with clearly posited mechanisms of change, and inclusive of longer-term follow-ups and analysis of differential intervention effects. Considering further development and evaluation of pragmatic interventions may be worthwhile to further understand the impact of this approach. The suggested implications for research made in this thesis will aid in improving the quality of the evidence base relevant to the prevention of mental health problems in children and adolescents.

References

1.   Lawrence D, Johnson S, Hafekost J, Boterhoven de Haan K, Sawyer M, Ainley J, Zubrick SR: **The mental health of children and adolescents: Report on the second Australian child and adolescent survey of mental health and wellbeing**. In. Canberra, ACT, Australia: Department of Health; 2015.

2.   Mellor D: **Normative data for the Strengths and Difficulties Questionnaire in Australia**. *Australian Psychologist* 2005, **40**(3):215-222.

3.   Muris P, Meesters C, van den Berg F: **The Strengths and Difficulties Questionnaire (SDQ): Further evidence for its reliability and validity in a community sample of Dutch children and adolescents**. *European Child & Adolescent Psychiatry* 2003, **12**(1):1-8.

4.   Rescorla L, Achenbach TM, Ivanova MY, Dumenci L, Almqvist F, Bilenberg N, Bird H, Broberg A, Dobrean A, Döpfner M *et al*: **Epidemiological comparisons of problems and positive qualities reported by adolescents in 24 countries**. *Journal of Consulting and Clinical Psychology* 2007, **75**(2):351-358.

5.   Reiss F: **Socioeconomic inequalities and mental health problems in children and adolescents: A systematic review.** *Social Science and Medicine* 2013, **90**(1):24-31.

6.   Rajmil L, López-Aguilà S, Mompart Penina A, Medina Bustos A, Rodríguez Sanz M, Brugulat Guiteras P: **Socio-economic inequalities in children's mental health in Catalonia**. *Anales de Pediatria (Barcelona, Spain: 2003)* 2010, **73**(5):233-240.

7.   Murray G, Judd F, Jackson H, Fraser C, Komiti A, Hodgins G, Pattison P, Humphreys J, Robins G: **Rurality and mental health: The role of accessibility**. *Australian and New Zealand Journal of Psychiatry* 2004, **38**(8):629-634.

8.   Australian Institute of Health and Welfare: **Young Australians: Their health and wellbeing**. In. Canberra, ACT, Australia: Australian Institute of Health and Welfare 2011.

9.   **Gathering New Data: The Victorian Adolescent Health and Wellbeing Survey (VAHWS). Victorian Department of Education and Early Childhood Development, Australia.** [http://www.education.vic.gov.au/about/research/pages/newdata.aspx]

10.   Ivancic L, Perrens B, Fildes J, Perry Y, Christensen H: **Youth Mental Health Report, June 2014**. In. Sydney, NSW, Australia: Mission Australia and Black Dog Institute; 2014.

11.   Gabriel A, Hecker M, Hurle J, Leaf T, Woolley B, Farooqui A, Hayes L, McLaughlin J, Molaeb H, Caruso A *et al*: **The state of Victoria's children**

2009: Aboriginal children and young people in Victoria. In. Victoria, Australia: The Department of Education and Early Childhood Development in collaboration with the Department of Human Services, Department of Health, Department of Planning and Community Development, and the Department of Justice (including Victoria Police); 2009.

12. Zubrick SR, Silburn SR, Lawrence DM, Mitrou FG, Dalby RB, Blair EM, Griffin J, Milroy H, de Maio J, Cox A *et al*: **The Western Australian Aboriginal Child Health Survey: The Social and Emotional Wellbeing of Aboriginal Children and Young People**. In., vol. Two. Perth, WA, Australia: Curtin University of Technology and Telethon Institute for Child Health Research; 2005.

13. Thorpe KE, Zwarenstein M, Oxman AD, Treweek S, Furberg CD, Altman DG, Tunis S, Bergel E, Harvey I, Magid DJ *et al*: **A pragmatic-explanatory continuum indicator summary (PRECIS): a tool to help trial designers**. *Journal of Clinical Epidemiology* 2009, **62**(5):464-475.

14. Hawkins JD, Oesterle S, Brown EC, Abbott RD, Catalano RF: **Youth problem behaviors 8 years after implementing the communities that care prevention system: A community-randomized trial**. *JAMA Pediatrics* 2014, **168**(2):122-129.

15. Spoth R, Greenberg MT: **Toward a comprehensive strategy for effective practitioner–scientist partnerships and larger-scale community health and well-being**. *American Journal of Community Psychology* 2005, **35**(3-4):107-126.

16. Wolpert M, Humphrey N, Deighton J, Patalay P, Fugard AJB, Fonagy P, Belsky J, Vostanis P: **An evaluation of the implementation and impact of England's Mandated School-Based Mental Health Initiative in elementary schools**. *School Psychology Review* 2015, **44**(1):117-138.

17. World Health Organisation: **Planning meeting in health promoting schools project: Background, development and strategy outline of the health promoting schools project**. In. Copenhagen, Denmark: World Health Organisation; 1991.

18. Fitzpatrick C, Power M, Brosnan E, Cleary D, Conlon A, Guerin S: **Working things out through SPHE-A journey from community to clinic and back**. *Advances in School Mental Health Promotion* 2009, **2**(3):38-45.

19. Lowry-Webster HM, Barrett PM, Lock S: **A universal prevention trial of anxiety symptomology during childhood: Results at 1-year follow-up**. *Behaviour Change* 2003, **20**(1):25-43.

20. Trudeau L, Spoth R, Randall GK, Azevedo K: **Longitudinal effects of a universal family-focused intervention on growth patterns of adolescent internalizing symptoms and polysubstance use: Gender comparisons**. *Journal of Youth and Adolescence* 2007, **36**(6):725-740.

21.   Cutuli J, Gillham JE, Chaplin TM, Reivich KJ, Seligman ME, Gallop RJ, Abenavoli RM, Freres DR: **Preventing adolescents' externalizing and internalizing symptoms: Effects of the Penn Resiliency Program**. *The International Journal of Emotional Education* 2013, **5**(2):67-79.

22.   Fitzpatrick C, Conlon A, Cleary D, Power M, King F, Guerin S: **Enhancing the mental health promotion component of a health and personal development programme in Irish schools**. *Advances in School Mental Health Promotion* 2013, **6**(2):122-138.

23.   Roberts CM, Kane R, Bishop B, Cross D, Fenton J, Hart B: **The prevention of anxiety and depression in children from disadvantaged schools**. *Behav Res Ther* 2010, **48**(1):68-73.

24.   Pössel P, Seemann S, Hautzinger M: **Impact of comorbidity in prevention of adolescent depressive symptoms.** *Journal of Counseling Psychology* 2008, **55**(1):106-117.

25.   Spoth R, Trudeau LS, Redmond CR, Shin C, Greenberg MT, Feinberg ME, Hyun G: **PROSPER partnership delivery system: Effects on adolescent conduct problem behavior outcomes through 6.5 years past baseline**. *Journal of Adolescence* 2015, **45**(1):44-55.

26.   Leventhal KS, Gillham J, DeMaria L, Andrew G, Peabody J, Leventhal S: **Building psychosocial assets and wellbeing among adolescent girls: A randomized controlled trial**. *Journal of Adolescence* 2015, **45**(1):284-295.

27.   Buttigieg JP, Shortt AL, Slaviero TM, Hutchinson D, Kremer P, Toumbourou JW: **A longitudinal evaluation of the Resilient Families randomized trial to prevent early adolescent depressive symptoms**. *Journal of Adolescence* 2015, **44**(1):204-213.

28.   Lock S, Barrett PM: **A longitudinal study of developmental differences in universal preventive intervention for child anxiety**. *Behaviour Change* 2003, **20**(4):183-199.

29.   Cardemil EV, Reivich KJ, Beevers CG, Seligman ME, James J: **The prevention of depressive symptoms in low-income, minority children: Two-year follow-up**. *Behaviour Research and Therapy* 2007, **45**(2):313-327.

30.   Rivet-Duval E, Heriot S, Hunt C: **Preventing adolescent depression in Mauritius: A universal school-based program**. *Child and Adolescent Mental Health* 2011, **16**(2):86-91.

31.   Rose K, Hawes DJ, Hunt CJ: **Randomized controlled trial of a friendship skills intervention on adolescent depressive symptoms**. *Journal of Consulting and Clinical Psychology* 2014, **82**(3):510-520.

32.   Centre for Education Statistics and Evaluation: **Literature Review: Student Wellbeing**. In. Sydney, NSW, Australia: Centre for Education Statistics and Evaluation, and NSW Department of Education and Communities; 2015.

33.   NSW Department of Education and Communities: **The Wellbeing Framework for Schools**. In. Sydney, NSW, Australia: NSW Department of Education and Communities; 2015.

34.   Martel MM, Markon K, Smith GT: **Research Review: Multi-informant integration in child and adolescent psychopathology diagnosis**. *Journal of Child Psychology and Psychiatry* 2017, **58**(2):116-128.

35.   Tomyn AJ, Fuller Tyszkiewicz MD, Norrish JM: **The psychometric equivalence of the Personal Wellbeing Index School-Children for Indigenous and non-Indigenous Australian adolescents**. *Journal of Happiness Studies* 2014, **15**(1):43-56.

36.   Newton D, Day A, Gillies C, Fernandez E: **A review of evidence-based evaluation of measures for assessing Social and Emotional Well-Being in Indigenous Australians**. *Australian Psychologist* 2015, **50**(1):40-50.

37.   Australian Institute of Health and Welfare: **Measuring the social and emotional wellbeing of Aboriginal and Torres Strait Islander peoples. Cat. no. IHW 24**. In. Canberra, ACT, Australia: AIHW; 2009.

38.   Centre for Epidemiology and Evidence: **HealthStats NSW**. In. Sydney, NSW, Australia: NSW Ministry of Health. Available at: www.healthstats.nsw.gov.au. Accessed (28th July 2016); 2011.

39.   Australian Bureau of Statistics: **3238.0 Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 to 2026**. In., 30th April 2014 edn. Canberra, ACT, Australia: Australian Bureau of Statistics 2014.

40.   Australian Bureau of Statistics: **2016 Census QuickStats**. In., 12th January 2017 edn. Canberra, ACT, Australia: Australian Bureau of Statistics; 2017.

41.   Patsopoulos NA: **A pragmatic view on pragmatic trials**. *Dialogues in Clinical Neuroscience* 2011, **13**(2):217-224.

42.   Treweek S, Zwarenstein M: **Making trials matter: pragmatic and explanatory trials and the problem of applicability**. *Trials* 2009, **10**(1):37.

43.   Hodgson R, Abbasi T, Clarkson J: **Effective mental health promotion: A literature review**. *Health Education Journal* 1996, **55**(1):55-74.

44.   Bond L, Glover S, Godfrey C, Butler H, Patton GC: **Building capacity for system-level change in schools: Lessons from the Gatehouse Project**. *Health Education and Behavior* 2001, **28**:368-383.

45. Merikangas KR, Nakamura EF, Kessler RC: **Epidemiology of mental disorders in children and adolescents**. *Dialogues in Clinical Neuroscience* 2009, **11**(1):7-20.

46. Parry-Langdon N: **Three years on: Survey of the development and emotional well-being of children and young people**. In. Office of Public Sector Information, Crown copyright: Kew, Richmond, Surrey, UK: Office of National Statistics; 2008.

47. Green H, McGinnity A, Meltzer H, Ford T, Goodman R: **Mental Health of Children and Young People in Great Britain, 2004.** In. London, England, United Kingdom: Office of National Statistics, The Stationary Office 2005.

48. Pastor PN, Reuben CA, Duran CR: **Identifying Emotional and Behavioral Problems in Children Aged 4–17 Years: United States, 2001–2007**. In: *National Health Statistics Report.* United States of America: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2012.

49. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, Nurcombe B, Patton GC, Prior MR, Raphael B *et al*: **Mental Health of Young People in Australia: Child and Adolescent Component of the National Survey of Mental Health and Well-being**. In. Canberra, ACT, Australia: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care 2000.

50. Lawrence D, Hafekost J, Johnson SE, Saw S, Buckingham WJ, Sawyer MG, Ainley J, Zubrick SR: **Key findings from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing**. *Australian and New Zealand Journal of Psychiatry* 2016, **50**(9):876-886.

51. Baxter AJ, Patton G, Scott KM, Degenhardt L, Whiteford HA: **Global epidemiology of mental disorders: What are we missing?** *PLOS ONE* 2013, **8**(6):e65514.

52. Wittchen HU, Jacobi F: **Size and burden of mental disorders in Europe: A critical review and appraisal of 27 studies**. *European Neuropsychopharmacology* 2005, **15**(4):357-376.

53. Fryers T, Brugha T, Morgan Z, Smith J, Hill T, Carta M, Lehtinen V, Kovess V: **Prevalence of psychiatric disorder in Europe: The potential and reality of meta-analysis**. *Social Psychiatry and Psychiatric Epidemiology* 2004, **39**(11):899-905.

54. Braddick F, Carral V, Jenkins R, Jané-Llopis E: **Child and adolescent mental health in Europe: Infrastructures, policy and programmes**. In. Luxembourg: European Communities 2009.

55. Deighton J, Croudace T, Fonagy P, Brown J, Patalay P, Wolpert M: **Measuring mental health and wellbeing outcomes for children and adolescents to**

inform practice and policy: A review of child self-report measures. *Child and Adolescent Psychiatry and Mental Health* 2014, **8**:14.

56. Stockings E, Degenhardt L, Lee YY, Mihalopoulos C, Liu A, Hobbs M, Patton G: **Symptom screening scales for detecting major depressive disorder in children and adolescents: A systematic review and meta-analysis of reliability, validity and diagnostic utility**. *Journal of Affective Disorders* 2015, **174**:447-463.

57. Seligman LD, Ollendick TH, Langley AK, Baldacci HB: **The utility of measures of child and adolescent anxiety: A meta-analytic review of the Revised Children's Manifest Anxiety Scale, the State-Trait Anxiety Inventory for Children, and the Child Behavior Checklist**. *Journal of Clinical Child and Adolescent Psychology* 2004, **33**(3):557-565.

58. Australian Institute of Health and Welfare: **Making progress: The health, development and wellbeing of Australia's children and young people**. In., vol. Cat. no. PHE 104. Canberra, ACT, Australia: Australian Institute of Health and Welfare; 2008.

59. **National Aboriginal and Torres Strait Islander Social Survey (NATSISS)** [http://www.abs.gov.au/Ausstats/abs@.nsf/0d21d0868273a2c3ca25697b00207e97/9ad558b6d0aed752ca256c7600018788!OpenDocument]

60. **National Centre for Longitudinal Data** [https://www.dss.gov.au/about-the-department/publications-articles/research-publications/longitudinal-data-initiatives/footprints-in-time-the-longitudinal-study-of-indigenous-children-lsic#1]

61. Department of Families Housing Community Services and Indigenous Affairs: **Footprints in Time: The Longitudinal Study of Indigenous Children - Key Summary Report from Wave 1**. In. Canberra, ACT, Australia: Department of Families Housing Community Services and Indigenous Affairs; 2009.

62. Australian Institute of Family Studies: **Growing Up in Australia: The Longitudinal Study of Australian Children Annual Statistical Report 2016**. In. Edited by Day K. Melbourne, VIC, Australia: Australian Institute of Family Studies; 2017.

63. Williamson A, Anderson M, Redman S, Dadds M, D'Este C, Daniels J, Eades S, Raphael B: **Measuring mental health in Indigenous young people: A review of the literature from 1998–2008**. *Clinical Child Psychology and Psychiatry* 2014, **19**(2):260-272.

64. Zubrick S, Silburn S, Garton A, Burton P, Dalby R, Carlton J, Shepherd C, Lawrence D: **Western Australian Child Health Survey: Developing health and well-being in the nineties**. In. Perth, Western Australia, Australia: Australian Bureau of Statistics and the TVW Telethon Institute for Child Health Research; 1995.

65.   Jorm AF, Bourchier SJ, Cvetkovski S, Stewart G: **Mental health of Indigenous Australians: A review of findings from community surveys**. *Medical Journal of Australia* 2012, **196**(2):118-121.

66.   Zubrick SR, Lawrence D, de Maio J, Biddle N: **Testing the reliability of a measure of Aboriginal Children's Mental Health: An analysis based on the Western Australian Aboriginal Child Health Survey**. In. Canberra, ACT, Australia: Australian Bureau of Statistics; 2006.

67.   Williamson A, McElduff P, Daniels J, Eades S: **The construct validity of the Strengths and Difficulties Questionnaire for Aboriginal children living in urban New South Wales, Australia**. *Australian Psychologist* 2014, **49**(3):163-170.

68.   Williamson A, Redman S, Dadds M, Daniels J, D'Este C, Raphael B, Eades S, Skinner T: **Acceptability of an emotional and behavioural screening tool for children in Aboriginal Community Controlled Health Services in urban NSW**. *Australian & New Zealand Journal of Psychiatry* 2010, **44**(10):894-900.

69.   **Strong Souls Assessment Tool**
        [https://www.menzies.edu.au/page/Resources/Strong_souls_assessment_tool/]

70.   National Health and Medical Research Council: **Values and ethics: Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research**. In. Canberra, ACT, Australia: National Health and Medical Research Council; 2003.

71.   Cowen EL, Hightower AD, Pedro-Carroll JL, Work WC, Wyman PA, Haffey WG: **The Rochester Child Resilience Project**. In: *School-based prevention for children at risk: The Primary Mental Health Project.* edn. Washington, DC, US: American Psychological Association; US; 1996: 255-274.

72.   Hodder RK, Freund M, Wolfenden L, Bowman J, Gillham K, Dray J, Wiggers J: **Systematic review of universal school-based resilience interventions targeting adolescent tobacco, alcohol or illicit drug use: Review protocol**. *BMJ Open* 2014, **4**(5):e004718.

73.   National Scientific Council on the Developing Child: **Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13**. In. Cambridge, United States: National Scientific Council on the Developing Child, Center on the Developing Child at Harvard University, http://www.developingchild.harvard.edu; 2015.

74.   Windle G: **What is resilience? A review and concept analysis**. *Reviews In Clinical Gerontology* 2011, **21**(2):152-169.

75.   Shochet IM, Dadds MR, Holland D, Whitefield K, Harnett PH, Osgarby SM: **The efficacy of a universal school-based program to prevent adolescent depression**. *Journal of Clinical Child Psychology* 2001, **30**(3):303-315.

76.   Gillham JE, Brunwasser SM, Freres DR: **Preventing depression in early adolescence: The Penn Resiliency Program**. In: *Handbook of Depression in Children and Adolescents.* edn. Edited by Abela JRZ, Hankin BL. New York, United States of America: The Guilford Press; 2008: 309-332.

77.   Noltemeyer AL, Bush KR: **Adversity and resilience: A synthesis of international research**. *School Psychology International* 2013, **34**(5):474-487.

78.   Hanson TL, Kim JO: **Measuring resilience and youth development: The psychometric properties of the Healthy Kids Survey**. In., Issues & Answers Report, REL 2007–No. 034 edn. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West; 2007.

79.   Masten AS, Herbers JE, Cutuli JJ, Lafavor TL: **Promoting competence and resilience in the school context**. *Professional School Counseling* 2008, **12**(2):76-84.

80.   Fergus S, Zimmerman MA: **Adolescent resilience: A framework for understanding healthy development in the face of risk**. *Annual Review of Public Health* 2005, **26**:399-419.

81.   Lee TY, Cheung CK, Kwong WM: **Resilience as a positive youth development construct: A conceptual review**. *The Scientific World Journal* 2012, **390450**:9.

82.   Sun J, Stewart DE: **Promoting student resilience and wellbeing: Asia-Pacific Resilient Children and Communities Project**. In: *International Research Handbook on Values Education and Student Wellbeing.* edn. Edited by Lovat T, Toomey R, Clement N. New York, US: Springer Science & Business Media; 2010: 409-426.

83.   McKnight LR, Loper AB: **The effect of risk and resilience factors on the prediction of delinquency in adolescent girls**. *School Psychology International* 2002, **23**(2):186-198.

84.   Gillham JE, Reivich KJ, Freres DR, Chaplin TM, Shatte AJ, Samuels B, Elkon AG, Litzinger S, Lascher M, Gallop R *et al*: **School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn Resiliency Program**. *J Consult Clin Psychol* 2007, **75**(1):9-19.

85.   Luthar SS, Cicchetti D, Becker B: **The construct of resilience: A critical evaluation and guidelines for future work**. *Child Development* 2000, **71**(3):543-562.

86.   Harvey J, Delfabbro PH: **Psychological resilience in disadvantaged youth: A critical overview**. *Australian Psychologist* 2004, **39**(1):3-13.

87.   Masten AS: **Resilience in developing systems: Progress and promise as the fourth wave rises**. *Development and Psychopathology* 2007, **19**(3):921-930.

88.   Saxena S, Jane-Llopis E, Hosman C: **Prevention of mental and behavioural disorders: Implications for policy and practice**. *World Psychiatry* 2006, **5**(1):5-14.

89.   World Health Organisation: **Prevention of mental disorders: Effective interventions and policy options: Summary report**. In.: A report of the World Health Organization Department of Mental Health and Substance Abuse; in collaboration with the Prevention Research Centre of the Universities of Nijmegen and Maastricht; 2004.

90.   Beyond Blue Ltd: **Building resilience in children aged 0–12: A practice guide**. In. VIC, Australia: beyondblue; 2017.

91.   Sawyer MG, Pfeiffer S, Spence SH, Bond L, Graetz B, Kay D, Patton G, Sheffield J: **School-based prevention of depression: A randomised controlled study of the beyondblue schools research initiative**. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 2010, **51**(2):199-209.

92.   Shochet IM, Ham D: **Universal school-based approaches to preventing adolescent depression: Past findings and future directions of the Resourceful Adolescent Program**. *International Journal of Mental Health Promotion* 2004, **6**(3):17-25.

93.   Cairns KE, Yap MB, Pilkington PD, Jorm AF: **Risk and protective factors for depression that adolescents can modify: A systematic review and meta-analysis of longitudinal studies**. *Journal of Affective Disorders* 2014, **169**:61-75.

94.   Stirling K, Toumbourou JW, Rowland B: **Community factors influencing child and adolescent depression: A systematic review and meta-analysis**. *Australian & New Zealand Journal of Psychiatry* 2015, **49**(10):869-886.

95.   Gariepy G, Honkaniemi H, Quesnel-Vallee A: **Social support and protection from depression: Systematic review of current findings in Western countries**. *British Journal of Psychiatry* 2016, **209**(4):284-293.

96.   Brumley LD, Jaffee SR: **Defining and distinguishing promotive and protective effects for childhood externalizing psychopathology: A systematic review**. *Social Psychiatry and Psychiatric Epidemiology* 2016, **51**(6):803-815.

97.   Essau CA, Conradt J, Sasagawa S, Ollendick TH: **Prevention of anxiety symptoms in children: Results from a universal school-based trial**. *Behav* 2012, **43**(2):450-464.

98.   Horowitz JL, Garber J, Ciesla JA, Young JF, Mufson L: **Prevention of depressive symptoms in adolescents: A randomized trial of cognitive-**

behavioral and interpersonal prevention programs. *Journal of Consulting and Clinical Psychology* 2007, **75**(5):693-706.

99.   MacKinnon DP, Fairchild AJ, Fritz MS: **Mediation analysis**. *Annual Review of Psychology* 2007, **58**:593.

100.   National Mental Health Commission: **Contributing lives, thriving communities: Report of the National Review of Mental Health Programmes and Services**. In. Sydney, NSW, Australia: NMHC; 2014.

101.   World Health Organisation: **Comprehensive mental health action plan 2013– 2020**. In: *Sixty-Sixth World Health Assembly, Geneva, Switzerland 2013*: WHA66.8; 2013.

102.   Allen M: **Local action on health inequalities: Building children and young people resilience in schools**. In. London, England, United Kingdom: University College London Institute of Health Equity and Public Health England; 2014.

103.   Ager A: **Annual research review: Resilience and child well-being--public policy implications**. *Journal of Child Psychology and Psychiatry* 2013, **54**(4):488-500.

104.   Murphy JM, Abel MR, Hoover S, Jellinek M, Fazel M: **Scope, scale, and dose of the world's largest school-based mental health programs**. *Harvard review of psychiatry* 2017, **25**(5):218-228.

105.   Department of Health and Ageing: **National Mental Health Report 2013: Tracking progress of mental health reform in Australia 1993 – 2011**. In. Canberra, ACT, Australia: Commonwealth of Australia 2013.

106.   **MindMatters** [https://www.mindmatters.edu.au/about-mindmatters/live-stats]

107.   **Our work in childhood and educational settings** [https://www.beyondblue.org.au/about-us/about-our-work/childhood-and-education-program/the-beyondblue-national-education-initiative]

108.   Cahill H, Beadle S, Farrelly A, Forster R, Smith K: **Building resilience in children and young people: A literature review for the Department of Education and Early Childhood Development (DEECD)**. In. Melbourne, VIC, Australia: Youth Research Centre, Melbourne Graduate School of Education, University of Melbourne; 2014.

109.   Urbis: **Literature review on meeting the psychological and emotional wellbeing needs of children and young people: Models of effective practice in educational settings**. In: *Final Report, prepared for the NSW Department of Education and Communities.* Sydney, NSW, Australia: Urbis; 2011.

110.   **Building Resilience** [http://www.education.vic.gov.au/school/parents/health/Pages/resilience.aspx]

111.   Shortt A, Toumbourou J, Chapman R, Power E: **The Resilient Families program: Promoting health and well-being in adolescents and their parents during the transition to secondary school**. *Youth Studies Australia* 2006, **25**(1):33-40.

112.   Sharples J, Albers B: **Putting Evidence to Work: A schools' Guide to Implementation. Guidance Report**. In. Millbank, London, United Kingdom: Education Endowment Foundation; 2018.

113.   Zwarenstein M, Treweek S: **What kind of randomized trials do we need?** *Canadian Medical Association Journal* 2009, **180**(10):998-1000.

114.   Calear AL, Christensen H: **Systematic review of school-based prevention and early intervention programs for depression.** *Journal of Adolescence* 2010, **33**(3):429-438.

115.   Llewellyn-Bennett R, Bowman L, Bulbulia R: **Post-trial follow-up methodology in large randomized controlled trials: A systematic review protocol**. *Systematic Reviews* 2016, **5**(1):214.

116.   Gillham JE, Shatte AJ, Reivich K: **Needed for prevention research: Long-term follow up and the evaluation of mediators, moderators, and lay providers**. *Prevention and Treatment* 2001, **4**(1):1-10.

117.   Neumann PJ, Sanders GD, Russell LB, Siegel JE, Ganiats TG: **Cost-effectiveness in Health and Medicine**, 2nd edn. New York, United States: Oxford University Press; 2017.

118.   Haidich AB: **Meta-analysis in medical research**. *Hippokratia* 2010, **14**(Suppl 1):29-37.

119.   Hoffman JIE: **Meta-analysis**. In: *Biostatistics for Medical and Biomedical Practitioners*. edn. Oxford, United Kingdom: Academic Press; 2015: 645-653.

120.   Ofuya M, Sauzet O, Peacock JL: **Dichotomisation of a continuous outcome and effect on meta-analyses: Illustration of the distributional approach using the outcome birthweight**. *Systematic Reviews* 2014, **3**(1):63-63.

121.   da Costa BR, Rutjes AW, Johnston BC, Reichenbach S, Nuesch E, Tonia T, Gemperli A, Guyatt GH, Juni P: **Methods to convert continuous outcomes into odds ratios of treatment response and numbers needed to treat: meta-epidemiological study**. *International Journal of Epidemiology* 2012, **41**(5):1445-1459.

122.   Whitehead A, Bailey AJ, Elbourne D: **Combining summaries of binary outcomes with those of continuous outcomes in meta-analysis**. *Journal of Biopharmaceutical Statistics* 1999, **9**(1):1-16.

123.   Schulz KF, Altman DG, Moher D: **CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials**. *Trials* 2010, **11**(1):32.

124.   Moher D, Hopewell S, Schulz KF, Montori V, Gøtzsche PC, Devereaux PJ, Elbourne D, Egger M, Altman DG: **CONSORT 2010 Explanation and elaboration: updated guidelines for reporting parallel group randomised trials**. *BMJ* 2010, **340**:c869.

125.   Windle G, Bennett KM, Noyes J: **A methodological review of resilience measurement scales**. *Health and Quality of Life Outcomes* 2011, **9**(8):1-18.

126.   Tak YR, Kleinjan M, Lichtwarck-Aschoff A, Engels RC: **Secondary outcomes of a school-based universal resiliency training for adolescents: A cluster randomized controlled trial**. *BMC Public Health* 2014, **14**:1171.

127.   Kennedy P, Rooney RM, Kane RT, Hassan S, Nesa M: **The enhanced Aussie Optimism Positive Thinking Skills Program: The relationship between internalizing symptoms and family functioning in children aged 9–11 years old**. *Frontiers in Psychology* 2015, **6**(504).

128.   Possel P, Baldus C, Horn AB, Groen G, Hautzinger M: **Influence of general self-efficacy on the effects of a school-based universal primary prevention program of depressive symptoms in adolescents: A randomized and controlled follow-up study**. *Journal of Child Psychology and Psychiatry* 2005, **46**(9):982-994.

Supplementary Table 1: Mapping of targeted protective factors against measured protective factors, for 37 trials included in Chapter 4 incorporating a measure of protective factors

Resilience Protective Factors (PF)	n trials that targeted PF	n trials that measured PF
Internal resilience protective factors		
Cognitive competence	23	19
Cooperation and communication	23	1
Coping	18	12
Emotional regulation	8	3
Empathy	16	3
Goals and aspirations	8	0
Problem solving/decision making	28	2
Self-control	3	0
Self-efficacy	6	5
Self-esteem	9	2
Self-regulation	19	2
Self-awareness	6	1
Social and emotional competence	22	6
Social and emotional skills	13	7
Spirituality	1	0
External resilience protective factors		
Community caring relationships	0	1
Community meaningful participation	2	1
Community support	5	2
Home caring relationships	4	4
Home support	3	0
Peer caring relationships	9	2
Pro-social peers	3	2
School caring relationships	3	3
School meaningful participation	5	5
School support	3	2

NB: No included trials targeted or measured 6 of thirty-one factors utilised in Chapter 4. These were 2 internal factors: empowerment and moral competence; and four external factors: community adult high expectations, home adult high expectations, home meaningful participation and, school adult high expectations.

APPENDICES

Appendix 1: The University of Newcastle Thesis by Publication Guidelines

**Office of Graduate Studies
Information Sheet
Thesis by Publication**

A thesis may be submitted in the form of a series of published papers and the additional rules specific to this style of thesis are presented below. **It is important to note that the general rules for a University of Newcastle thesis are also applicable. Please ensure you also refer to** The Rules Governing Research Higher Degrees for the full scope of applicable rules.

Rule 39.1 A thesis by publication will include:

i.   a full explanatory overview that links the separate papers and places them in the context of an established body of knowledge;

ii. a literature review;

iii. if detailed data and descriptions of methods are not otherwise given within the separate papers, they must be included in the body of the thesis or as appendices to the thesis;

Rule 39.2 For a thesis by publication:

i.   the separate papers provided under sub-clause 39.1(i) must be published, in press or submitted to scholarly media only, i.e. refereed publications classified by current national standards and refereed conference papers, however at least 50% of these papers must have been published. Papers published up to three years prior to enrolment may be included provided they were published in scholarly media and do not represent more than 50% of the total papers;

ii. publications submitted by the candidate for another degree may only be referred to in the thesis literature review;

iii. the number of papers submitted should demonstrate that the body of work meets the requirements of the degree as outlined in the relevant schedule;

iv. the candidate must be the lead author in at least 50% of the papers written in the time of their formal Research Higher Degree candidature. Any published paper of which the candidate is a joint author may only be included in the thesis provided the work done by the candidate is clearly identified. The candidate must include in the thesis a written statement from each co-author attesting to the candidate's contribution to a joint publication included as part of the thesis. These statements must be endorsed by the Assistant Dean (Research Training).

v.   the Assistant Dean (Research Training) may seek the approval of the Dean of Graduate Studies to include a paper that is outside the scope of these rules.

Considerations

- Each discipline area will have different issues to consider in the decision to submit a thesis in the form of a series of published papers.

- It is essential that you discuss your options carefully with your supervisor(s). The thesis by publication must reflect a sustained and cohesive theme, an integrated whole that sits logically in the context of the available literature. Overall the material presented for examination needs to equate to that which would otherwise be presented in the traditional thesis format.

- The review process for some journals is significant resulting in lengthy waiting periods for papers to be accepted and this can delay thesis submission/completion. Time management and selection of journals/publishers is critical. Focusing on publication rather than research may lead to candidates being tempted to publish sections of their work prematurely and missing opportunities to fully capitalize on the significance of the work.

- Consider the thesis from the examiners' view point - if the publications do not have a clear cohesion and the contribution to knowledge is not clearly demonstrated, then the thesis may attract criticism and be rejected by examiners. The content of the thesis remains a matter of professional judgment for the supervisor(s) and candidate.

- Any published paper of which the candidate is a joint author may only be included in the thesis provided the work done by the candidate is clearly identified. The candidate must include in the thesis a written statement from each co-author attesting to the candidate's contribution to a joint publication included as part of the thesis. The statement/s need to be signed by the Faculty Assistant Dean (Research Training). A sample statement is provided below.

- We strongly advise that you arrange for the signatures from co-authors to be collected as soon as the paper is prepared or submitted for publication rather than trying to collect them at the time of thesis submission.

- There is no minimum or maximum requirement on the number of papers. Of equal, or perhaps more importance than quantity, is the quality of the journals. Please refer to your school or faculty for more specific guidance on the number and length of papers that would normally be expected in your discipline.

Alternative option

As discussed above, you need to consider if your publications will form a sufficient body of cohesive work to meet the requirements of thesis by publication. You may like to consider the other option of including publications within a standard thesis format, either in the body or as an appendix as supported in the rule below.

Rule 38.5. A thesis may:

i. Include publications arising as a consequence of the research undertaken for a thesis.

When the candidate includes a co-authored published paper or co-authored scholarly work, or a substantive component of a co-authored published paper or co-authored scholarly work in the body of the thesis, the candidate must include in the thesis a

written statement attesting to their contribution to the joint publication. This statement must be signed by the supervisor. A statement is not required when publications are included as an appendix to the thesis.

Appendix 2: Funding Sources for Chapters 2, 5 and 6

Appendix 2.1: Hunter Medical Research Institute and NiB Foundation Grant documentation

TO   Associate Professor John Wiggers
CC
FROM   Grants Administration, Research Office
DATE   24-Jun-2010
SUBJECT   G1000225 - Healthy Schools, Healthy Futures

Congratulations on being awarded the grant as detailed below:

Chief investigator: John Wiggers
Project title: Healthy Schools, Healthy Futures
Institution number: G1000225
RMO reference: 2010/0124
Sponsor reference: HMRI 10-36
Sponsor/scheme: Hunter Medical Research Institute/Shared(**)

Special Conditions (if any):
Progress and Final   It is the responsibility of HMRI to ensure Progress and
Reporting   Final Reports are submitted on time.

Ethics or Safety Issues:
You must ensure that all clearances are obtained before any work on this project commences. If any clearances below are waiting for approval, you will not be able to access the funding. In exceptional circumstances approval for early release of funding may be granted. To seek early release of funding, a formal request outlining the relevant details should be forwarded to Judy Alexander, Associate Director - Research Grants and Infrastructure.

If your project does not involve ethics or safety issues, or we have received confirmation from Ethics and/or Safety that clearances for your project are in place, your Financial Services Manager will contact you shortly with a cost collector number.

Human Ethics   Waiting for reference
Environmental Safety   Waiting for reference

For forms and information on seeking clearances for Ethics or Safety, please see the Research website http://www.newcastle.edu.au/service/grants-and-contracts/forms-and-codes/

Reporting Requirements (if any):

Type of Report   Due Date

Please insert these dates in your diary now. You may also receive a reminder which will be automatically generated from the database one month before the report is due. Please send the report/s directly to the sponsor and send a copy to

the Research Office for the grant file. If an Institutional signature is required please send the report to the Research Office and we will obtain the required signature and submit the report on your behalf.

Please see letter of offer for further details. If financial reports are requested by the granting body, please liaise with your Financial Services Officer.

Scholarship Funding:
If this grant will be funding a research higher degree scholarship, please ensure that a Research Scholarship Establishment Proposal is completed and lodged with the Office of Graduate Studies. This form can be located on the web at:
http://www.newcastle.edu.au/research/rhd/forms.html

If you have any questions or need further information, please contact the Research Office on 4921 7733.

Regards

Grants Administration

Appendix 2.2: National Health and Medical Research Council Grant documentation

Australian Government

National Health and Medical Research Council

N H M R C

In reply please quote: **NHMRC Project Grant Application 631025**

A/Pr John Wiggers
Associate Professor
School of Medicine and Public Health
Locked Bag 10
Wallsend NSW 2287

Dear A/Pr Wiggers

Project Grant Application: 631025
Scientific Title: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students

I am pleased to advise that the Minister for Health and Ageing, the Hon Nicola Roxon MP, has approved funding for your National Health & Medical Research Council (NHMRC) Project Grant to commence in 2010.

Approved Budget
The Approved Budget for this Project Grant is $1,432,750 over a period of 4 years. This budget (and its individual components) was determined by the Grant Review Panel (GRP) during its detailed assessment of the application. You should note that this budget (excluding any equipment component) is provided as a one-line grant and grantees may expend the funds as necessary to support the research project provided that:

1. all expenditure is an accordance with the requirements of the *Deed of Agreement – Research Funding Schemes* (the Deed), noting that use of funding for some purposes is expressly excluded in the Deed;
2. funding approved for specific pieces of *Equipment* is used for this purpose;
3. funding is not used to provide infrastructure that should be provided by the institution; and
4. annual financial reports itemise expenditure against outgoings, including *Salaries, Equipment* and *Direct Research Costs.*

The following table indicates the total amount in each year for which funding has been approved. These amounts are exclusive of any GST or annual indexation that may apply.

Year	2010	2011	2012	2013	2014
Personnel Support Packages	$144,500	$114,375	$114,375	$144,500	$
Direct Research Costs	$265,000	$325,000	$325,000	$	$
Equipment	$	$	$	$	$
TOTAL	$409,500	$439,375	$439,375	$144,500	$

Outcome of the Assessment

Please find enclosed a final assessment report, which is designed to assist applicants in understanding where their application could have been made more competitive in relation to applications that were ranked more highly.

Grant Advisory Group 5 (GAG) rated your application in Category 6, when assessed against the totality of the category descriptors. Further information on the category descriptors is provided in Attachment B to the *NHMRC Project Grants Funding Policy for funding commencing in 2010* available at http://www.nhmrc.gov.au/grants/apply/projects/index.htm#pol. The membership and fields of research covered by each GAG can also be found at http://www.nhmrc.gov.au/grants/rounds/projects/index.htm.

Accepting this offer

The formal offer of grant funding will be made as part of the *Deed of Agreement – Research Funding Schemes* (the Deed) between the Australian Government and your Administering Institution. It is the responsibility of your Administering Institution to inform you of the requirements under the Deed, which sets out the amount and duration of funding, conditions or milestones, co-funding and reporting requirements. A copy of the generic Deed of Agreement is posted on the NHMRC web site for your information at: http://www.nhmrc.gov.au/grants/admin/deeds.htm

If you wish to accept the offer of funding, please contact your Research Administration Officer (RAO). Your Institution has until 31 January 2010 to advise NHMRC of your acceptance or the offer may be withdrawn. Prior to commencement of payments for this grant, your RAO is required to provide notification that all necessary clearances have been obtained.

Please direct all queries regarding this offer via your RAO as they are NHMRC's first point of contact when disseminating instructions and information about the scheme.

Participation in NHMRC Peer Review

Grant recipients are reminded that subsection 13.4 of the Deed states:

> "The Commonwealth may request the Institution to make available to the Commonwealth, the services of Chief Investigators for the purposes of reviewing or assessing applications made under the NHMRC Funding Schemes during the Period of Funding, and the Institution will use its best endeavours to facilitate compliance by the Chief Investigator(s)."

Accordingly, all Chief Investigators are requested to complete the *NHMRC Peer Review Participation Form* located at: http://www.nhmrc.gov.au/grants/peer/participation.htm. Your RAO will be requested to confirm completion of the *Peer Review Participation Form* by all Chief Investigators prior to returning the completed Schedule to NHMRC.

Lastly, I would like to congratulate you on your successful application and to take this opportunity to wish you well with this research project.

Yours sincerely

[Authorised for Electronic Transmission]

Michael Nutt
A/g Executive Director
Research Investment Branch
8 October 2009

cc: Research Administration Officer, University of Newcastle

ENC: Grant Review Panel (GRP) Final Report

Appendix 3: Ethics Approvals and Trial Registration for Chapters 2, 5 and 6

Appendix 3.1: Hunter New England Human Ethics Approval

18 December 2009

HUNTER NEW ENGLAND NSW⊕HEALTH

Dr J Wiggers
Director
Hunter New England Population Health
Wallsend

Dear Dr Wiggers,

Re: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students (09/11/18/4.01)

HNEHREC Reference No: 09/11/18/4.01
NSW HREC Reference No: HREC/09/HNE/378

Thank you for submitting the above protocol for single ethical review. This project was first considered by the Hunter New England Human Research Ethics Committee at its meeting held on **18 November** 2009 and again on the **16 December 2009**. This Human Research Ethics Committee is constituted and operates in accordance with the National Health and Medical Research Council's *National Statement on Ethical Conduct in Human Research (2007)* (National Statement) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*. Further, this Committee has been accredited by the NSW Department of Health as a lead HREC under the model for single ethical and scientific review. The Committee's Terms of Reference are available from the Hunter New England Area Health Service website:
http://www.hnehealth.nsw.gov.au/Human_Research_Ethics.

I am pleased to advise that following acceptance under delegated authourity of the requested clarifications and changes to the Parent Information Letter and Partnership Agreement by Dr Nicole Gerrand Manager, Research Ethics & Governance, the Hunter New England Human Research Ethics Committee has granted ethical approval of the above project.

The following documentation has been reviewed and approved by the Hunter New England Human Research Ethics Committee:

- The Student Information Letter (Version 2 dated 2 December 2009);
- The Staff Information Letter (Version 2 dated 2 December 2009);
- The Parent Information Letter and Consent Form (Version 3 dated 17 December 2009);
- The School Information Letter (Version 2 dated 2 December 2009);
- The Partnership Agreement 2010/2013 (Version 2 dated 17 December 2009);
- The Student Survey (Version 2 dated 2 December 2009);
- The Staff Survey (Version 2 dated 2 December 2009);
- The Parent/Carer Survey (Version 2 dated 2 December 2009); and
- The Parent Phone Prompt (Version 1 dated 2 December 2009)

For the protocol: **Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students**

Hunter New England Research Ethics & Governance Unit

(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/Human_Research_Ethics

Approval from the Hunter New England Human Research Ethics Committee for the above protocol is given for a maximum of **3** years from the date of this letter, after which a renewal application will be required if the protocol has not been completed.

The *National Statement on Ethical Conduct in Human Research (2007)*, which the Committee is obliged to adhere to, include the requirement that the committee monitors the research protocols it has approved. In order for the Committee to fulfil this function, it requires:

- a report of the progress of the above protocol be submitted at 12 monthly intervals. Your review date is **December 2010**. A proforma for the annual report will be sent two weeks prior to the due date.

- A final report be submitted at the completion of the above protocol, that is, after data analysis has been completed and a final report compiled. A proforma for the final report will be sent two weeks prior to the due date.

- All variations or amendments to this protocol, including amendments to the Information Sheet and Consent Form, must be forwarded to and approved by the Hunter New England Human Research Ethics Committee prior to their implementation.

- The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:

  - any serious or unexpected adverse events
    - Adverse events, however minor, must be recorded as observed by the Investigator or as volunteered by a participant in this protocol. Full details will be documented, whether or not the Investigator or his deputies considers the event to be related to the trial substance or procedure. These do not need to be reported to the Hunter New England Human Research Ethics Committee

    - Serious adverse events that occur during the study or within six months of completion of the trial at your site should be reported to the Manager, Research Ethics & Governance, of the Hunter New England Human Research Ethics Committee as soon as possible and at the latest within 72 hours.

    - All other safety reporting should be in accordance with the NHMRC's Safety Monitoring Position Statement – May 2009 available at http://www.nhmrc.gov.au/health_ethics/hrecs/reference/_files/090609_nhmrc_position_statement.pdf

    - Serious adverse events are defined as:
      - Causing death, life threatening or serious disability.
      - Cause or prolong hospitalisation.
      - Overdoses, cancers, congenital abnormalities whether judged to be caused by the investigational agent or new procedure or not.

  - unforeseen events that might affect continued ethical acceptability of the project.

- If for some reason the above protocol does not commence (for example it does not receive funding); is suspended or discontinued, please inform Dr Nicole Gerrand, as soon as possible.

Hunter New England Research Ethics & Governance Unit

(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/Human_Research_Ethics

Appendix 3.2: Hunter New England Human Ethics Approval Variation 2013

8 July 2013

Dr John Wiggers
HNE Population Health
Wallsend Campus

Dear Dr Wiggers

Re: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students (09/11/18/4.01)

HNEHREC Reference No: 09/11/18/4.01
NSW HREC Reference No: HREC/09/HNE/378
SSA Reference No: SSA/09/HNE/385

Thank you for submitting a request for an amendment to the above project. This amendment was reviewed by the Hunter New England Human Research Ethics Committee. This Human Research Ethics Committee is constituted and operates in accordance with the National Health and Medical Research Council's *National Statement on Ethical Conduct in Human Research (2007)* (National Statement) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*. Further, this Committee has been accredited by the NSW Department of Health as a lead HREC under the model for single ethical and scientific review.

I am pleased to advise that the Hunter New England Human Research Ethics Committee has granted ethical approval for the following amendment requests:

- For the addition of A/Prof Melissa Haswell-Elkins as co-investigator;
- For the addition of Ms Julia Dray as student researcher;
- For the addition of Ms Marlene Kong as student researcher;
- For the DET Parent Information Letter – Intervention (Version 2 dated July 2013);
- For the CSO Parent Information Letter – Intervention (Version 2 dated July 2013);
- For the DET Parent Information Letter – Control (Version 2 dated July 2013);
- For the CSO Parent Information Letter – Control (Version 2 dated July 2013);
- For the Government Schools Student Information Letter (Version 3 dated July 2013); and
- For the Catholic Schools Student Information Letter (Version 3 dated July 2013)

Hunter New England Human Research Ethics Committee
(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email:hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/research_ethics_and_governance_unit

For the protocol: **Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students**

Approval has been granted for this study to take place at the following site:

- **Hunter New England Population Health**

Approval from the Hunter New England Human Research Ethics Committee for the above protocol is given for a maximum of **3** years from the date of the approval letter of your initial application after which a renewal application will be required if the protocol has not been completed. The above protocol is approved until **December 2012.**

The *National Statement on Ethical Conduct in Human Research (2007)* which the Committee is obliged to adhere to, include the requirement that the committee monitors the research protocols it has approved. In order for the Committee to fulfil this function, it requires:

- A report of the progress of the above protocol to be submitted at 12 monthly intervals. Your review date is **December 2012.** A proforma for the annual report will be sent two weeks prior to the due date.

- A final report must be submitted at the completion of the above protocol, that is, after data analysis has been completed and a final report compiled. A proforma for the final report will be sent two weeks prior to the due date.

- All variations or amendments to this protocol, including amendments to the Information Sheet and Consent Form, must be forwarded to and approved by the Hunter New England Human Research Ethics Committee prior to their implementation.

- The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:

    - any serious or unexpected adverse events

        - Adverse events, however minor, must be recorded as observed by the Investigator or as volunteered by a participant in this protocol. Full details will be documented, whether or not the Investigator or his deputies considers the event to be related to the trial substance or procedure.

        - Serious adverse events that occur during the study or within six months of completion of the trial at your site should be reported to the Professional Officer of the Hunter New England Human Research Ethics Committee as soon as possible and at the latest within 72 hours.

        - Copies of serious adverse event reports from other sites should be sent to the Hunter New England Human Research Ethics Committee for review as soon as possible after being received.

        - Serious adverse events are defined as:

            - Causing death, life threatening or serious disability.
            - Cause or prolong hospitalisation.

Appendix 3.3: University of Newcastle Ethics Approval

HUMAN RESEARCH ETHICS COMMITTEE

THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

Notification of Expedited Approval

To Chief Investigator or Project Supervisor:	**Dr John Wiggers**
Cc Co-investigators / Research Students:	**Doctor Elizabeth Campbell**
	Dr Luke Wolfenden
	Associate Professor Jennifer Bowman
	Ms Megan Freund
	Mrs Rebecca Hodder
Re Protocol:	**Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students**
Date:	**05-Mar-2010**
Reference No:	**H-2010-0029**
Date of Initial Approval:	**03-Mar-2010**

Thank you for your **Initial Application** submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under **Expedited Review of External Approval** review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is **External HREC Approval Noted** effective **03-Mar-2010**.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. *If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.*

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal *Certificate of Approval* will be available upon request. Your approval number is **H-2010-0029**.

If the research requires the use of an Information Statement, ensure this number is inserted at the relevant point in the Complaints paragraph prior to distribution to potential participants You may then proceed with the research.

Conditions of Approval

This approval has been granted subject to you complying with the requirements for *Monitoring of Progress, Reporting of Adverse Events*, and *Variations to the Approved Protocol* as detailed below.

PLEASE NOTE:
In the case where the HREC has "noted" the approval of an External HREC, progress reports and reports of adverse events are to be submitted to the External HREC only. In the case of Variations to the approved protocol, or a Renewal of approval, you will apply to the External HREC for approval in the first instance

and then Register that approval with the University's HREC.

- **Monitoring of Progress**

Other than above, the University is obliged to monitor the progress of research projects involving human participants to ensure that they are conducted according to the protocol as approved by the HREC. A progress report is required on an annual basis. Continuation of your HREC approval for this project is conditional upon receipt, and satisfactory assessment, of annual progress reports. You will be advised when a report is due.

- **Reporting of Adverse Events**

1. It is the responsibility of the person **first named on this Approval Advice** to report adverse events.
2. Adverse events, however minor, must be recorded by the investigator as observed by the investigator or as volunteered by a participant in the research. Full details are to be documented, whether or not the investigator, or his/her deputies, consider the event to be related to the research substance or procedure.
3. Serious or unforeseen adverse events that occur during the research or within six (6) months of completion of the research, must be reported by the person first named on the Approval Advice to the (HREC) by way of the Adverse Event Report form within 72 hours of the occurrence of the event or the investigator receiving advice of the event.
4. Serious adverse events are defined as:
   - Causing death, life threatening or serious disability.
   - Causing or prolonging hospitalisation.
   - Overdoses, cancers, congenital abnormalities, tissue damage, whether or not they are judged to be caused by the investigational agent or procedure.
   - Causing psycho-social and/or financial harm. This covers everything from perceived invasion of privacy, breach of confidentiality, or the diminution of social reputation, to the creation of psychological fears and trauma.
   - Any other event which might affect the continued ethical acceptability of the project.

5. Reports of adverse events must include:
   - Participant's study identification number;
   - date of birth;
   - date of entry into the study;
   - treatment arm (if applicable);
   - date of event;
   - details of event;
   - the investigator's opinion as to whether the event is related to the research procedures; and
   - action taken in response to the event.

6. Adverse events which do not fall within the definition of serious or unexpected, including those reported from other sites involved in the research, are to be reported in detail at the time of the annual progress report to the HREC.

- **Variations to approved protocol**

If you wish to change, or deviate from, the approved protocol, you will need to submit an *Application for Variation to Approved Human Research*. Variations may include, but are not limited to, changes or additions to investigators, study design, study population, number of participants, methods of recruitment, or participant information/consent documentation. **Variations must be approved by the (HREC) before they are implemented** except when Registering an approval of a variation from an external HREC which has been designated the lead HREC, in which case you may proceed as soon as you receive an acknowledgement of your Registration.

Linkage of ethics approval to a new Grant

HREC approvals cannot be assigned to a new grant or award (ie those that were not identified on the application for ethics approval) without confirmation of the approval from the Human Research Ethics Officer on behalf of the HREC.

Best wishes for a successful project.

Associate Professor Alison Ferguson
Chair, Human Research Ethics Committee

Linked University of Newcastle administered funding:

Funding body	Funding project title	First named investigator	Grant Ref
Project Grant	Effectiveness of resilience intervention in reducing smoking and alcohol consumption among secondary school students	Wiggers John,Henry	G0190175

Appendix 3.4: University of Newcastle Ethics Approval Variation 2010

HUMAN RESEARCH ETHICS COMMITTEE

THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

Notification of Expedited Approval

To Chief Investigator or Project Supervisor:	**Associate Professor John Wiggers**
Cc Co-investigators / Research Students:	**Doctor Elizabeth Campbell**
	Dr Luke Wolfenden
	Associate Professor Jennifer Bowman
	Ms Megan Freund
	Mrs Rebecca Hodder
Re Protocol:	**Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students**
Date:	**07-Sep-2010**
Reference No:	**H-2010-0029**

Thank you for your **Variation** submission to the Human Research Ethics Committee (HREC) seeking approval in relation to a variation to the above protocol.

Variation to:

1. Add a further 12 schools to the intervention group.

2. Add Catholic schools to the eligible pool of school participants.

3. Amend the student self-reported physical activity study to include the reporting of inadequate physical activity, and to require a random selection of students to wear a pedometer for 1 week in order to validate the accuracy of their self-reported physical activity.

-Parent Information Letter and Consent Form for Students, Version 4 dated 12.4.2010

- Student Survey, Version 3 dated 12.4.2010

Your submission was considered under **Expedited** review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is **External HREC Approval Noted** effective **02-Sep-2010**.

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal *Certificate of Approval* will be available upon request.

Professor Alison Ferguson
Chair, Human Research Ethics Committee

For communications and enquiries:
Human Research Ethics Administration

Research Services
Research Office
The University of Newcastle
Callaghan NSW 2308
T +61 2 492 18999
F +61 2 492 17164
Human-Ethics@newcastle.edu.au

Linked University of Newcastle administered funding:

Funding body	Funding project title	First named investigator	Grant Ref
Scholarship	Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students	Wiggers John,Henry	G1000656
Shared	Healthy Schools, Healthy Futures	Wiggers John,Henry	G1000225
Project Grant	Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students	Wiggers John,Henry	G0190175

Appendix 3.5: University of Newcastle Ethics Approval Variation 2013

HUMAN RESEARCH ETHICS COMMITTEE

THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

Notification of Expedited Approval

To Chief Investigator or Project Supervisor:	**Professor John Wiggers**
Cc Co-investigators / Research Students:	**Doctor Libby Campbell** **Dr Luke Wolfenden** **Associate Professor Jennifer Bowman** **Ms Megan Freund** **Mrs Rebecca Hodder**
Re Protocol:	**Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students**
Date:	**22-Aug-2013**
Reference No:	**H-2010-0029**
Date of Initial Approval:	**03-Mar-2010**

Thank you for your **Progress Report / Renewal** submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under **Expedited Review of External Approval** review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is **External HREC Approval Noted** effective **20-Aug-2013**.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the National Statement on Ethical Conduct in Human Research, 2007, and the requirements within this University relating to human research.

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. *If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.*

The full Committee will be asked to ratify this decision at its next scheduled meeting. A formal *Certificate of Approval* will be available upon request. Your approval number is **H-2010-0029**.

If the research requires the use of an Information Statement, ensure this number is inserted at the relevant point in the Complaints paragraph prior to distribution to potential participants You may then proceed with the research.

Conditions of Approval

This approval has been granted subject to you complying with the requirements for *Monitoring of Progress, Reporting of Adverse Events*, and *Variations to the Approved Protocol* as detailed below.

PLEASE NOTE:
In the case where the HREC has "noted" the approval of an External HREC, progress reports and reports of adverse events are to be submitted to the External HREC only. In the case of Variations to the approved protocol, or a Renewal of approval, you will apply to the External HREC for approval in the first instance

and then Register that approval with the University's HREC.

- **Monitoring of Progress**

Other than above, the University is obliged to monitor the progress of research projects involving human participants to ensure that they are conducted according to the protocol as approved by the HREC. A progress report is required on an annual basis. Continuation of your HREC approval for this project is conditional upon receipt, and satisfactory assessment, of annual progress reports. You will be advised when a report is due.

- **Reporting of Adverse Events**

1. It is the responsibility of the person **first named on this Approval Advice** to report adverse events.
2. Adverse events, however minor, must be recorded by the investigator as observed by the investigator or as volunteered by a participant in the research. Full details are to be documented, whether or not the investigator, or his/her deputies, consider the event to be related to the research substance or procedure.
3. Serious or unforeseen adverse events that occur during the research or within six (6) months of completion of the research, must be reported by the person first named on the Approval Advice to the (HREC) by way of the Adverse Event Report form (via RIMS at https://rims.newcastle.edu.au/login.asp) within 72 hours of the occurrence of the event or the investigator receiving advice of the event.
4. Serious adverse events are defined as:
   - Causing death, life threatening or serious disability.
   - Causing or prolonging hospitalisation.
   - Overdoses, cancers, congenital abnormalities, tissue damage, whether or not they are judged to be caused by the investigational agent or procedure.
   - Causing psycho-social and/or financial harm. This covers everything from perceived invasion of privacy, breach of confidentiality, or the diminution of social reputation, to the creation of psychological fears and trauma.
   - Any other event which might affect the continued ethical acceptability of the project.

5. Reports of adverse events must include:
   - Participant's study identification number;
   - date of birth;
   - date of entry into the study;
   - treatment arm (if applicable);
   - date of event;
   - details of event;
   - the investigator's opinion as to whether the event is related to the research procedures; and
   - action taken in response to the event.

6. Adverse events which do not fall within the definition of serious or unexpected, including those reported from other sites involved in the research, are to be reported in detail at the time of the annual progress report to the HREC.

- **Variations to approved protocol**

If you wish to change, or deviate from, the approved protocol, you will need to submit an *Application for Variation to Approved Human Research* (via RIMS at https://rims.newcastle.edu.au/login.asp). Variations may include, but are not limited to, changes or additions to investigators, study design, study population, number of participants, methods of recruitment, or participant information/consent documentation. **Variations must be approved by the (HREC) before they are implemented** except when Registering an approval of a variation from an external HREC which has been designated the lead HREC, in which case you may proceed as soon as you receive an acknowledgement of your Registration.

Linkage of ethics approval to a new Grant

HREC approvals cannot be assigned to a new grant or award (ie those that were not identified on the application for ethics approval) without confirmation of the approval from the Human Research Ethics Officer on behalf of the HREC.

Best wishes for a successful project.

Professor Allyson Holbrook

Chair, Human Research Ethics Committee

For communications and enquiries:
Human Research Ethics Administration

Research Services
Research Integrity Unit
The Chancellery
The University of Newcastle
Callaghan NSW 2308
T +61 2 492 17894
F +61 2 492 17164
Human-Ethics@newcastle.edu.au

RIMS website - https://RIMS.newcastle.edu.au/login.asp

Linked University of Newcastle administered funding:

Funding body	Funding project title	First named investigator	Grant Ref
Hunter New England Population Health/Salary Top Up(**)	Dray - Top Up scholarship	Bowman Jennifer,	G1300872
Hunter New England Population Health/Salary Top Up(**)	Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students	Wiggers John,	G1000656
Hunter Medical Research Institute/Shared(**)	Healthy Schools, Healthy Futures	Wiggers John,	G1000225
NHMRC (National Health & Medical Research Council)/Project Grant(**)	Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students	Wiggers John,	G0190175

Appendix 3.6: Aboriginal Health & Medical Research Council Approval

From: Robert Fritchley [mailto:RFritchley@ahmrc.org.au]
Sent: Monday, 14 March 2011 11:23 AM
To: Karen E. Gillham
Subject: 776/11 – Healthy Schools, Healthy Futures: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students

Dear Associate Professor Wiggers
776/11 – Healthy Schools, Healthy Futures: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students
I am pleased to advise you that the reviewers have recommended the above application for approval by the AH&MRC Ethics Committee subject to the following Standard Conditions and Special Condition of Approval being met:

"Standard Conditions of Approval (<u>where applicable to the project</u>)
1. *The approval is for a period from 21 March 2011 until 31 March 2012, with extension subject to providing a report on the research by 31 March 2012.*
2. *All research participants are to be provided with a relevant Participant Information Statement and Consent Form in the format provided with the application.*
3. *Copies of all signed participant consent forms must be retained and made available to the Ethics Committee on request. A request will only be made if there is a dispute or complaint in relation to a participant.*
4. *Any changes to the staffing, methodology, timeframe, or any other aspect of the research relevant to continued ethical acceptability of the project must have the prior written approval of the Ethics Committee.*
5. *The research must comply at all times with:*
    *   *the AH&MRC Guidelines for Research in Aboriginal Health- Key Principles*
    *   *the National Statement on Ethical Conduct in Research Involving Humans (April 2007); and*
    *   *the NSW Aboriginal Health Information Guidelines.*
6. *The final draft of the report from the research, and any publication or presentation prior to that report where new data or findings are presented, must be provided to the AH&MRC Ethics Committee to be reviewed for compliance with ethical and cultural criteria prior to:*
    *   *any submission for publication; and/or*
    *   *any dissemination of the report.*
7. *A copy of the final published version of any publication is to be provided to the AH&MRC Ethics Committee.*

Special Condition/s
8. *Before work can commence on this application, the Committee must be provided with a signed Organisational Consent Form or Letter of Support from a relevant Aboriginal Community Controlled Health Services (ACCHSs) or an alternative Aboriginal community body."*

I have drafted a letter of approval for signature by the Chairperson of the Ethics Committee, incorporating the Standard and Special Condition/s, but as she lives in the country there will be a few days in the turnaround.

On behalf of the AH&MRC Ethics Committee thank you for submitting your application for Ethics approval.

With kind regards

Robert

Robert Fritchley
Project Officer
Ethics Committee

Aboriginal Health and Medical Research Council
Level 3: 66 Wentworth Ave: Surry Hills NSW 2010 P:+61 2 9212 4777 F:+61 2 9212 7211
Postal Address: PO Box 1565 Strawberry Hills 2012
Web: www.ahmrc.org.au

Please visit the 1st Aboriginal specific gambling website
http://www.ahmrc.org.au/gambling.php

Appendix 3.7: Aboriginal Health Impact Statement – Checklist

Aboriginal Health Impact Statement Checklist

This Checklist should be used when preparing an Aboriginal Health Impact Statement for new health policies, as well as major health strategies and programs. To complete the checklist and to fully understand the meaning of each checklist item, it is essential to refer to *How to Use the checklist* in Part 3 of the Aboriginal Health Impact Statement.

Development of the policy, program or strategy

1. Has there been appropriate representation of Aboriginal stakeholders in the development of the policy, program or strategy?   ☑ Yes ◯ No

2. Have Aboriginal stakeholders been involved from the early stages of policy, program or strategy development?   ☑ Yes ◯ No

   Please provide a brief description

   > As the program involves many Aboriginal stakeholders across a large geographic region and involves a diverse representation of government and community organisations, a Healthy Schools, Healthy Futures Aboriginal Cultural Steering Group has been formed and meets on a regular basis. The purpose of the Steering Group is to provide an opportunity for relevant Aboriginal cultural perspectives, advice, guidance and direction into the design, implementation, evaluation and dissemination of the Healthy Schools, Healthy Futures program.

3. Have consultation/negotiation processes occurred with Aboriginal stakeholders?   ☑ Yes ◯ No ◯ N/A

4. Have these processes been effective?   ☑ Yes ◯ No

   Explain

   > A Healthy Schools, Healthy Futures Consultation Plan has been developed, and as a result, consultation has been ongoing with local and regional Aboriginal Education Consultative Groups (AECGs), Local Aboriginal Land Councils and AMSs. Evaluation of consultation strategies will be undertaken with members of the Aboriginal community.

5. Have links been made with relevant existing mainstream and/or Aboriginal-specific policies, programs and/or strategies?   ☑ Yes ◯ No ◯ N/A

   Explain

   > Links to policies and programs are ongoing at the advice of members from Aboriginal communities. A Cultural Appropriateness Criteria Tool has also been developed to assist schools to decide on which resilience focused intervention program they will implement in their schools that are the most culturally appropriate for their Aboriginal students. The Tool applies to Aboriginal student focused programs and whole school programs. This tool has been developed in consultation with the Aboriginal Cultural Steering Group, will be introduced to local and regional AECGs and rolled out to HSHF schools.

Contents of the policy, program or strategy

6. Does the policy, program or strategy clearly identify the effects it will have on Aboriginal health outcomes and health services?   ☑ Yes ◯ No

   Comments

   > It is intended that the benefits for Aboriginal students will be: an increased level of resilience and a decreased use of tobacco, alcohol and other drug use. It is hoped the benefits for Aboriginal communities will be: an increased understanding of Aboriginal communities by schools and an increased partnership between Aboriginal communities and schools.

7. Have these effects been adequately addressed in the policy, program or strategy?   ☑ Yes ◯ No

   Explain

   > The outcomes have been addressed in program planning and implementation to date. However, further consultation and investigation is occurring and will continue to occur through the life of the program. The inclusion of specific strategies for Aboriginal young people and addressing cultural appropriateness and safety more generally is intended to reduce the gap in health risk behaviour between Aboriginal and non-Aboriginal young people. HSHF schools are also implementing specific strategies to increase engagement with Aboriginal communities and services.

8. Are the identified effects on Aboriginal health outcomes and health services sufficiently different for Aboriginal people (compared to the general population) to warrant the development of a separate policy, program or strategy?

☑ Yes ○ No ○ N/A

Explain

> Separate strategies will continue to be implemented to ensure that there is a reduction in Aboriginal young people's health risk behavior and a reduction in the gap in health risk behavior between Aboriginal and non-Aboriginal young people. Such strategies have been developed in consultation with the program's Aboriginal Steering Group, Cultural Advice Working Group, local and regional AECGs, Aboriginal school staff, and other Aboriginal stakeholders.
> Note: List how the effects are identified

Implementation and evaluation of the policy, program or strategy

9. Will implementation of the policy, program or strategy be supported by an adequate allocation of resources specifically for its Aboriginal health aspects?

☑ Yes ○ No ○ N/A
○ To be advised

Describe

> The program team includes an Aboriginal Program Manager, an Aboriginal project officer, and two Aboriginal school project officers to support program implementation. Two additional Aboriginal staff members will support evaluation of cultural appropriateness strategies. All planned program components will be free of charge to students. Schools will be encouraged to allocate a percentage of the seed funding to facilitate Aboriginal student participation. Additional funding will be provided to support Aboriginal student focused resilience programs or to support cultural awareness at schools.

10. Will the initiative build the capacity of Aboriginal people/organisations through participation?

☑ Yes ○ No ○ N/A

In what way will capacity be built?

> For Aboriginal program staff, training needs will be identified via usual line management procedures. Dissemination opportunities (authorship, conference attendance and presentation opportunities) will be actively promoted to Aboriginal staff and Aboriginal Steering Group members. The project team may also assist with training and funding application processes. Aboriginal students, parents and other community members will be encouraged to participate in planning days. Furthermore, the program plans to recruit an Aboriginal person as a PhD student.

11. Will the policy, program or strategy be implemented in partnership with Aboriginal stakeholders?

☑ Yes ○ No ○ N/A

Briefly describe the intended implementation process

> Consultation with Regional and local AECGs across the HNE region has been ongoing and will continue in an ongoing and structured process. A Healthy Schools Healthy Futures Aboriginal Steering Group has been formed. The purpose of the Steering Group is to provide an opportunity for cultural input into the design, implementation, evaluation and dissemination of the program across the HNE Region. A consultation plan has also been developed in consultation with the Aboriginal Cultural Steering Group.

12. Does an evaluation plan exist for this policy, program or strategy?

☑ Yes ○ No ○ N/A

13. Has it been developed in conjunction with Aboriginal stakeholders?

☑ Yes ○ No ○ N/A

Briefly describe Aboriginal stakeholder involvement in the evaluation plan

> An extensive evaluation plan has been developed which includes data from the student, staff, parent and school environment surveys. The plan has undergone review in consultation with Aboriginal Population Health staff. Ongoing advice will be sought from the Aboriginal Steering Group, AECGs, Aboriginal program staff and other Aboriginal stakeholders to ensure the appropriateness of data collection procedures. Interpretation and any release of Aboriginal or gap data will be undertaken in consultation with the Aboriginal Steering Group and, when appropriate, local Aboriginal stakeholders (eg local/regional AECGs and Aboriginal school staff).

Appendix 3.8: Aboriginal Health and Medical Research Council (AH&MRC) Cultural Approval of manuscript prior to journal submission: Chapter 2

AH&MRC ETHICS COMMITTEE

27 January, 2016

Associate Professor John Wiggers
Director
Population Health, HNEAHS
Locked Bag 10
Wallsend NSW 2287

Associate Professor John Wiggers,

RE: 776/11 – Healthy Schools, Health Futures: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students

I refer to the email correspondence, received 14 December 2015 from Julie Dray, requesting review of a manuscript as part of the above project that has previously been approved by the Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee.

The manuscript for review is titled, 'Risk of mental health problems in a population of Australian Adolescents: prevalence and association with socio-demographic characteristics'.

The Committee has reviewed and approved your manuscript.

Please provide a copy of the manuscript for our review should it be accepted.

The conditions of approval contained in the original approval letter will continue to apply.

On behalf of the AH&MRC Ethics Committee,

Yours sincerely,

Val Keed
Chairperson
AH&MRC Ethics Committee

Supported by the NSW Ministry of Health

Location	Postal Address	Contact		ABN
Level 3, 66 Wentworth Avenue	PO Box 1565	Phone:	+61 (2) 9212 4777	ABN 66 085 654 397
Surry Hills NSW 2010	Strawberry Hills NSW 2012	Fax:	+61 (2) 9212 7211	
		e-Mail:	ahmrc@ahmrc.org.au	
		web:	www.ahmrc.org.au	

**Appendix 3.9: Aboriginal Health and Medical Research Council (AH&MRC)
Cultural Approval of manuscript prior to journal submission: Chapter 6**

AH&MRC ETHICS COMMITTEE

29th July 2016

Professor John Wiggers
School of Medicine and Public Health
Faculty of Health and Medicine
University of Newcastle
NSW 2308

Dear Professor Wiggers,

Re: 776/11 – Healthy Schools, Healthy Futures: Effectiveness of a resilience intervention in reducing smoking and alcohol consumption among secondary school students

I refer to recent correspondence received 21st July 2016 from Julia Dray regarding the request for the abstract titled "**Effectiveness of a pragmatic, school-based universal intervention targeting student resilience protective factors in reducing mental health problems in adolescents**" to be reviewed for ethics approval.

The Committee has reviewed and approved this manuscript.

The conditions contained in the original letter of approval still apply.

On behalf of the AH&MRC Ethics Committee,

Yours sincerely,

Val Keed
Chairperson
AH&MRC Ethics Committee

Location	Postal Address	Contact		ABN
Level 3, 66 Wentworth Avenue	PO Box 1565	Phone:	+61 (2) 9212 4777	ABN 66 085 654 397
Surry Hills NSW 2010	Strawberry Hills NSW 2012	Fax:	+61 (2) 9212 7211	
		e-Mail:	ahmrc@ahmrc.org.au	
		web:	www.ahmrc.org.au	

Appendix 3.10: Australian and New Zealand Clinical Trial (ANZCTR) registration

Trial Review

Trial registered on ANZCTR
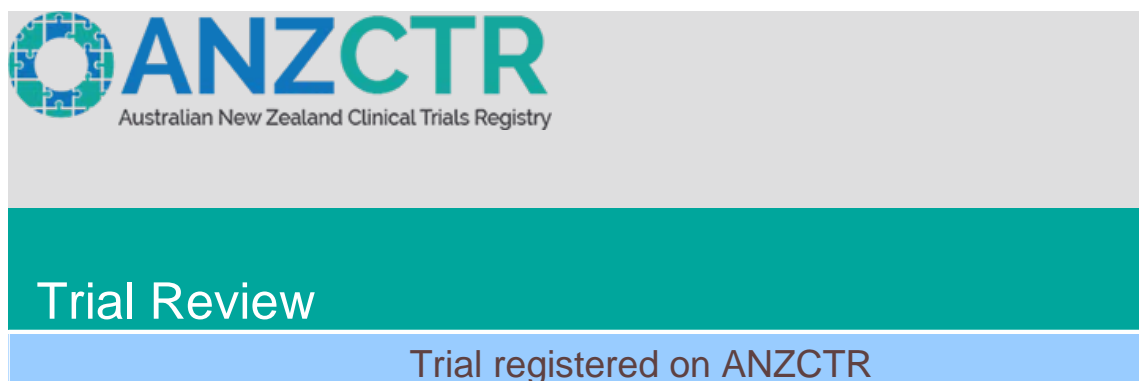
Trial ID	ACTRN12611000606987
Ethics application status	Approved
Date submitted	8/06/2011
Date registered	14/06/2011
Type of registration	Prospectively registered

Titles & IDs

Public title	Healthy Schools, Healthy Futures: a randomised controlled trial to assess the efficacy of a school-based resilience intervention to decrease tobacco and alcohol use in secondary school students
Scientific title	The effect of a school-based resilience intervention versus standard school practice on student tobacco, alcohol use levels, and mental health
Secondary ID [1]	Nil
Universal Trial Number (UTN)	U1111-1122-0591
Trial acronym	Healthy Schools, Healthy Futures

Health condition

Health condition(s) or problem(s) studied:

Adolescent tobacco use

Adolescent alcohol use

Adolescent mental health

Condition category	Condition code
Public Health	Health promotion/education
Mental Health	Studies of normal psychology, cognitive function and behaviour

Intervention/exposure

Study type	Interventional

Description of intervention(s) / exposure	A three year resilience intervention will be implemented in each school in the intervention group inclusive of the following six intervention strategies: - Implementation of age appropriate resilience curriculum and programs targeting student resilience factors e.g. resilience linked to curriculum across subjects, use of existing programs such as the Resourceful Adolescent Program. - Implementation of school policies and practices that impact on student resilience factors e.g. modification of welfare policies to include resilience, student reward and recognition program - Modification of the physical and social environment of the school to create a safe and supportive environment where resilience is fostered e.g. modification of space use, student murals - Development of partnerships with local organisations and community groups to deliver resilience strategies within the school e.g. Salvation Army, Aboriginal Community - Improve access to, and promotion of, health and community services e.g. youth services, community health- Implementation of strategies to engage and increase participation of parents and families in school-based activities e.g. social events, increased opportunity to attend school events
Intervention code [1]	Prevention
Intervention code [2]	Behaviour
Intervention code [3]	Lifestyle
Comparator / control treatment	No treatment – standard school practices
Control group	Active

Outcomes

Primary outcome [1]	Tobacco use measured by adolescent self-report
Time point [1]	At baseline (2011) and at the end of the intervention period (2014)
Primary outcome [2]	Alcohol use measured by adolescent self-report
Time point [2]	At baseline (2011) and at the end of the intervention period (2014)
Primary outcome [3]	Primary outcome 3: Mental health measured by the youth self-report version of the Strength and Difficulties Questionnaire (SDQ).
Time point [3]	Time point: at baseline (2001) and at the end of the intervention period (2014).
Secondary outcome [1]	Resilience factors score measured by adolescent self-report
Time point [1]	At baseline (2011) and at the end of the intervention period (2014)
Secondary outcome [2]	Marijuana use measured by adolescent self-report
Time point [2]	At baseline (2011) and at the end of the intervention period (2014)
Secondary outcome [3]	Other drug use measured by adolescent self-report
Time point [3]	At baseline (2011) and at the end of the intervention period (2014)
Secondary outcome [4]	Physical activity level measured by adolescent self-report
Time point [4]	At baseline (2011) and at the end of the intervention period (2014)

Secondary outcome [5]	Consumption of fruit measured by adolescent self-report
Time point [5]	At baseline (2011) and at the end of the intervention period (2014)
Secondary outcome [6]	Consumption of vegetables measured by adolescent self-report
Time point [6]	At baseline (2011) and at the end of the intervention period (2014)
Secondary outcome [7]	Sexual activity measured by adolescent self-report
Time point [7]	At baseline (2011) and at the end of the intervention period (2014)

Eligibility

Key inclusion criteria	Schools: - located in a disadvantaged area (defined by the SEIFA Index of Relative Socio-Economic Advantage/Disadvantage) - located within the HNE Area Health Service region - > 400 enrolments - enrolments in Years 7-10 - co-educational Children: - all children in Years 7-10 in participating schools
Minimum age	12Years
Maximum age	17Years
Gender	Both males and females
Can healthy volunteers participate?	Yes
Key exclusion criteria	Schools: The following types of schools will be excluded from the trial given their characteristics and the likelihood of a differential effects in these schools: - fully special needs schools - central schools (schools with enrolments from Kindergarten to Year 10/12) - fully selective schools - boarding schools - schools already implementing a comprehensive resilience intervention

Study design

Purpose of the study	Prevention
Allocation to intervention	Randomised controlled trial

Procedure for enrolling a subject and allocating the treatment (allocation concealment procedures)	Schools: Schools will be selected from a current list of all government and Catholic secondary schools in the study area obtained from the Department of Education and Training and from relevant regional Catholic School Offices. The order in which schools will be invited to participate will then be determined using a random number function in Microsoft Excel by an independent statistician. The principals of the first 32 randomly selected eligible secondary schools will be sent a letter informing them about the study and requesting written consent for their school to participate. Within one week from the initial information letters being sent, research staff will contact non-responding principals to answer any questions they may have and to prompt for their reply. Principals that do not reply within a further week will receive additional prompts from research staff. If a school declines to consent the next school on the list will be invited, following the same procedure above.

Once 32 schools have been recruited to the study, the sample will be stratified by current receipt of National Partnership Payment funding (low socio-economic schools are provided between AUS$1,000-1,500 per student for four years to improve student wellbeing (REF)) and school size (medium sized school 400-800; large sized school >800). Twenty schools will then be randomly allocated to the intervention group and 12 to the control group by a statistician (using a random number function in SAS 9.2) using proportional random allocation.

Children:
Active parental consent will be required for child participation in the data collection part of the trial. In order to maximise parental consent for child participation, schools will be provided with information regarding the study to disseminate via existing school communication channels, including school newsletters, assemblies, staff
meetings, and school community and parent groups. Parents will be given study information packs that include a short letter from the school principal on school letterhead, a detailed study information letter for parents, a simplified study information letter for students, a parental consent form for child participation and a reply paid envelope. Parents will be asked to return the consent form by either using the reply paid envelope, or directly to their child's school. Two weeks after distribution of the information packs, non-responding parents will be telephoned by school staff to prompt return of the child consent form. |
| Methods used to generate the sequence in which subjects will be randomised (sequence generation) | Eligible schools will be randomly selected from the list, and the order in which they are approached to participate will also be randomly determined (using a random number function in Excel) by a statistician. |
| Masking / blinding

Who is / are masked / blinded? | Open (masking not used) |
| Intervention assignment | Parallel |

Other design features	
Phase	Not Applicable
Type of endpoint(s)	Efficacy

Recruitment

Recruitment status	Recruiting
Anticipated date of first participant enrolment	24/07/2011
Actual date of first participant enrolment	27/07/2011
Anticipated date las participant enrolled	
Actual date las participant enrolled	
Anticipated date of las data collection	
Actual date of las data collection	
Target sample size	
Actual sample size	
	16000

Recruitment in Australia

Recruitment state(s)	NSW
Recruitment postcode(s) [1]	2280
Recruitment postcode(s) [2]	2281
Recruitment postcode(s) [3]	2284
Recruitment postcode(s) [4]	2285
Recruitment postcode(s) [5]	2286
Recruitment postcode(s) [6]	2287
Recruitment postcode(s) [7]	2289
Recruitment postcode(s) [8]	2290
Recruitment postcode(s) [9]	2298
Recruitment postcode(s) [10]	2299
Recruitment postcode(s) [11]	2304
Recruitment postcode(s) [12]	2320
Recruitment postcode(s) [13]	2321
Recruitment postcode(s) [14]	2322
Recruitment postcode(s) [15]	2323
Recruitment postcode(s) [16]	2324
Recruitment postcode(s) [17]	2333
Recruitment postcode(s) [18]	2336
Recruitment postcode(s) [19]	2337
Recruitment postcode(s) [20]	2340
Recruitment postcode(s) [21]	2350
Recruitment postcode(s) [22]	2360
Recruitment postcode(s) [23]	2390

Recruitment postcode(s) [24]	2420
Recruitment postcode(s) [25]	2428
Recruitment postcode(s) [26]	2430

Funding & Sponsors

Funding source category [1]	Government body
Name [1]	National Health and Medical Research Council
Address [1]	GPO Box 1421 Canberra ACT 2601
Country [1]	Australia
Funding source category [2]	Charities/Societies/Foundations
Name [2]	nib Foundation
Address [2]	Locked Bag 2010 Newcastle NSW 2300
Country [2]	Australia
Funding source category [3]	Government body
Name [3]	Hunter New England Population Health
Address [3]	Locked Bag 10 Wallsend NSW 2287
Country [3]	Australia
Funding source category [4]	Other Collaborative groups
Name [4]	Hunter Medical Research Institute
Address [4]	Locked Bag 1 Hunter Region Mail Centre NSW 2310
Country [4]	Australia
Primary sponsor type	University
Name	The University of Newcastle
Address	Callaghan NSW 2308
Country	Australia
Secondary sponsor category [1]	Government body
Name [1]	Hunter New England Population Health
Address [1]	Locked Bag 10 Wallsend NSW 2287
Country [1]	Australia
Other collaborator category [1]	Other
Name [1]	New South Wales Department of Education and Communities
Address [1]	35 Bridge Street Sydney NSW 2000
Country [1]	Australia
Other collaborator category [2]	Other
Name [2]	Armidale Catholic Schools Office
Address [2]	PO Box 636 Armidale NSW 2350

Country [2]	Australia
Other collaborator category [3]	Other
Name [3]	Maitland Newcastle Catholic Schools Office
Address [3]	PO Box 714 Newcastle NSW 2300
Country [3]	Australia

Ethics approval

Ethics application status	Approved
Ethics committee name [1]	Hunter New England Human Research Ethics Committee
Ethics committee address [1]	Hunter New England Health Locked Bag 1 New Lambton NSW 2305
Ethics committee country [1]	Australia
Date submitted for ethics approval [1] Approval date [1]	18/12/2009
Ethics approval number [1]	09/11/18/4.01
Ethics committee name [2]	The University of Newcastle Human Research Ethics Committee
Ethics committee address [2]	Callaghan NSW 2308
Ethics committee country [2]	Australia
Date submitted for ethics approval [2] Approval date [2]	07/10/2010
Ethics approval number [2]	H-2010-0029
Ethics committee name [3]	Aboriginal Health and Medical Research Council of New South Wales
Ethics committee address [3]	PO Box 1565 Strawberry Hills NSW 2012
Ethics committee country [3]	Australia
Date submitted for ethics approval [3] Approval date [3]	14/03/2011
Ethics approval number [3]	Ref 776/11

Summary

Brief summary	A cluster randomised controlled trial study is proposed in 32 schools to test the efficacy of a comprehensive three year resilience intervention in decreasing the self-reported health risk behaviours of secondary school students. Twenty schools will be randomly allocated to the intervention group and a further 12 schools randomly allocated to the control group. For evaluation purposes, web-based surveys will be conducted with a cohort of students in grade 7 attending both intervention and control schools at baseline (prior to intervention delivery), and three years after baseline

	data collection when the cohort are in grade 10. The surveys will include measures of self-reported health risk behaviours (including tobacco, alcohol, marijuana and other illicit drug use; nutritional intake, physical activity and sexual practices for those students in grade 10) risk of mental health problems, as well as student resilience scores. Comparisons will be made at follow up between grade
	10 students in intervention and control schools to examine any differential changes in student health risk behaviours, risk of mental health problems, and resilience scores.
Trial website Trial related presentations / publications	Freund M, Campbell E, Wolfenden L, Bowman J, Hodder R, Gillham K, Wiggers J. Healthy Schools, Healthy Futures: implementing resilience intervention using the Health Promoting Schools framework. Australian Health Promoting Schools 8th National Conference; October 2010; Perth, Australia.
Public notes	Hodder R, Freund M, Daly J, Campbell E, Wolfenden L, Bowman J, Gillham K, Hazell T, Wiggers J. A school-based resilience intervention to decrease adolescent tobacco, alcohol and marijuana use: pilot results and study protocol for RCT. 6th International Drugs and Young People Conference; May 2011; Melbourne Australia.

Contacts

Principal investigator

Name	Prof John Wiggers
Address	Hunter New England Population Health Locked Bag 10 Wallsend NSW 2287
Country	Australia
Phone	+61 2 4924 6247
Fax	+61 2 4924 6209
Email	John.wiggers@hnehealth.nsw.gov.au

Contact person for public queries

Name	Prof John Wiggers
Address	Hunter New England Population Health Locked Bag 10 Wallsend NSW 2287
Country	Australia
Phone	+61 2 4924 6247
Fax	+61 2 4924 6209
Email	John.wiggers@hnehealth.nsw.gov.au

Contact person for scientific queries

Name	Prof John Wiggers
Address	Hunter New England Population Health Locked Bag 10 Wallsend NSW 2287
Country	Australia
Phone	+61 2 4924 6247
Fax	+61 2 4924 6209
Email	john.wiggers@hnehealth.nsw.gov.au

Appendix 4: Consent forms and information statements for Chapters 2, 5 and 6

Appendix 4.1: School Information Letter

Direct Contact Details
Locked Bag 10
Wallsend NSW 2287
Phone (02) 4924 6477 Fax (02) 4924 6490
Email megan.freund@hnehealth.nsw.gov.au

Dear Principal

HEALTHY SCHOOLS, HEALTHY FUTURES

Your school is invited to take part in the 'Healthy Schools, Healthy Futures' program which is being conducted by a research team from the University of Newcastle. The program focuses on enhancing student resilience and decreasing the likelihood of engaging in risky health behaviours such as cigarette smoking and drinking alcohol. This program has been trialled in three government high schools and the findings were encouraging. Results indicated a significant increase in student resilience, and significant decreases in tobacco, alcohol and other drug use. You or your staff may have already attended a briefing meeting regarding the program.

To examine the effectiveness of 'Healthy Schools, Healthy Futures', the research team is undertaking a controlled study in 32 high schools and your school has been randomly selected to take part. Of the 32 participating schools, 20 schools have been randomly allocated to receive the 'Healthy Schools, Healthy Futures' intervention and another 12 schools have been randomly allocated to be control schools. The study will run in intervention schools for four years between 2011 and 2014.

To evaluate the success of the 'Healthy Schools, Healthy Futures' program we will be conducting student (Years 7-10), staff and parent surveys over the 4 years of the program. Intervention schools will be invited to participate in the student, parent and staff surveys in each year of the study. Control schools will be invited to participate in the students surveys in 2011 and again in 2014. Both intervention and control schools will be provided resources to support the implementation of the surveys and data collection. After each survey period, each school will be provided a report that includes aggregated data regarding their students' resilience and protective factors, and the prevalence of student risk behaviours. The data collected in this program is also intended to be used by The University of Newcastle, and in a thesis by a PhD student, Ms Rebecca Hodder, under the supervision of Dr John Wiggers, Dr Megan Freund and Dr Jennifer Bowman.

The student surveys asks students in Year 7-10 questions about the their resilience and protective characteristics and student health risk behaviour, such as alcohol consumption, smoking, illicit drug use, physical inactivity, poor nutrition, and for those students in Year 10, sexual practices. The student survey also asks about your child's experience of bullying and harassment and includes questions about family and friend's tobacco and alcohol use. The parent and staff surveys ask about factors contributing to the health and wellbeing of children.

In addition to evaluating the outcomes of the project, the information from the student, staff and parent surveys will be used to assist intervention schools to identify, plan and implement strategies and initiatives to address health and wellbeing within the school. In addition to these surveys, some students will be asked to wear a pedometer for 7 days to confirm their reported participation in physical activity.

Intervention schools will also participate in the intervention program that is designed to increase the capacity of the schools to effectively address student resilience. It is expected such capacity will be increased through actions such as: modification of school governance processes; professional development of teachers; increased collaboration between teachers, parents, students and the wider school community; modification of curriculum; development of curriculum resources; establishment of links with community agencies; modification of school policies and services; and monitoring performance. The research team will provide intervention schools a number of resources to support implementation of the intervention program.

Your school's participation in this study is voluntary. If you choose to participate in the study, you can withdraw at any time and a reason for withdrawal is not required. All existing data related to your school will be deleted. If you decide not participate or to withdraw from this study, it will not affect you or your school's relationship with any of the services offered by Hunter New England Area Health or the University of Newcastle.

The document attached to this letter provides further background information (pages 3-5) and also details what the program will involve for intervention schools (pages 6-9). If you would like more information about the program please contact Megan Freund, Program Manager on 4924 6374 or via e-mail Megan.Freund@hnehealth.nsw.gov.au.

After considering this information, could you please indicate whether you would like your school to participate in the program by completing the attached consent form. The completed consent form can be returned by email, mail or fax to the contact details at the top of this letter. If we have not received a completed consent form from you within 1 week, a member of the research team will contact you by phone to ensure you have received the information letter and the attached consent form.

Thank you for considering this invitation.

Yours sincerely,

Dr John Wiggers
Chief Investigator
The University of Newcastle

This project has been approved by The University of Newcastle Human Research Ethics Committee: H-2010-0029, Hunter New England Human Research Ethics Committee of Hunter New England Health, Reference 09/11/18/4.01, Department of Education and Training, Reference 2008118 and Aboriginal Health and Medical Research Council of New South Wales, Reference 776/11.

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, Manager Research Ethics and Governance, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305 or Telephone (02) 4921 4950, email Nicole.Gerrand@hnehealth.nsw.gov.au.

Researchers on the 'Healthy Schools, Health Futures' project: Dr John Wiggers (The University of Newcastle), Dr Elizabeth Campbell (The University of Newcastle and Hunter New England Population Health), Dr Luke Wolfenden (The University of Newcastle and the Cancer Institute), Dr Jenny Bowman (The University of Newcastle), Dr Megan Freund (The University of Newcastle)

BACKGROUND

Why address the risky health behaviours of young people?

The use of alcohol, tobacco, illicit drugs, poor levels of physical activity and nutrition, unsafe sexual practice contribute significantly to the burden of illness in young people.[1]

Smoking

Young smokers experience immediate adverse health effects such as decreased physical fitness, a higher susceptibility to respiratory illnesses, and slower lung growth.[1] In 2004, the proportion of young people who were current smokers increased with age from 8% for 12–15 year olds to 17% for 16–19 year olds.

Alcohol

High doses of alcohol severely impair brain function and can result in coma or death from direct intoxication.[1] The immediate effects of excessive alcohol consumption also include a lowering of inhibitions and impairment of motor, sensory and thought processes, which can lead to increased risk taking and hence serious injury and death.[1] In 2005, 25% of all NSW secondary school students reported consumed alcohol recently (42% for 17 year olds).[2]

Physical activity and nutrition

Lack of physical activity and poor food habits are prime contributors to obesity. Overweight and obesity impacts on young people's psychological wellbeing, and increases the risk of asthma and Type 2 diabetes.[1] Obesity in adolescence is also associated with social isolation, and lower educational and income attainment throughout life.[1] In 2004, only 46% of males and 30% of females aged 15–24 years participated in levels of physical activity at recommended levels and 26% of young people met daily fruit consumption recommendations.[1]

Unsafe sexual practice

With the commencement of sexual activities, teen pregnancies and sexually transmitted infections become primary health concerns.[3] In 2008, over one quarter of year 10 students have engaged in sexual intercourse, and the proportion of students having intercourse has increased from 35%- 40% (in students in Years 10-12) between 2002 and 2008. Despite the increase in sexual activity however, the study has found that rates of condom and other contraception use have remained steady.[3]

In addition to the short-term health effects health risk behaviours impose, such risky behaviours also contribute to the leading causes of mortality and morbidity in adults. Risk behaviours are often initiated in adolescence, and earlier the age of initiation, the greater the likelihood of later risky health behaviour.[1;4]

What the research says about improving young people's health and well-being

Research suggests that a range of factors are important in young people achieving competence, confidence and good health in adulthood.[5;6] In particular, protective and resilience factors are critical to positive youth development, protection from engaging in health risk behaviours and, increased engagement at school.[7]

Protective factors refer to positive influences within the young person's environment and surroundings that protect them from engaging in health risk behaviours. Protective factors that have been identified as being important include school connection, community connection, family connection, autonomy experience, pro-social peers and pro-social group.

Resilience factors refer to the personal skills and traits of the young person.[7] Resilience factors which have been identified as being important include empathy, self-esteem, self-awareness, effective help seeking, communication and cooperation, and goals and aspirations. It is advocated that protective and resilience factors should form the basis of programs that aim to improve the health outcomes of young people.[7;8] Programs which address resilience are particularly important in young people who experience disadvantage. [9]

Schools are a great setting to improve adolescent resilience

Schools have long been considered an ideal setting for health promotion because they provide access to young people at a time when they are vulnerable to emotional problems and risk taking behaviour that may have long lasting harmful effects.[10] Additionally, young people spend half of their waking hours at school and the quality of experiences with teachers and peers in that setting can have a huge impact on a young person's health and emotional wellbeing.[10] There is considerable evidence supporting the potential for school based interventions to produce positive health outcomes for young people.[10]

Differences in academic and behavioural outcomes between schools have been found to be more closely linked to a school's organisational and social climate rather than the characteristics and social status of students. The Health Promoting Schools (HPS) Framework takes into account the school's ethos and environment as well as its partnerships with the community and access to health services. The HPS Framework has been effective in reducing alcohol and drug use, bullying, anti-social behaviour and school suspensions; and improving adolescent social skills, self concept, resistance to peer pressure, academic achievement and attitudes to school.[11]

The HPS Framework has three overlapping domains:

- Curriculum, Teaching and Learning: the formal curriculum and how it is taught
- School Organisation, Ethos and Environment: the 'feel' of the school includes the physical and social environment, which ideally should provide a safe, fun and stimulating place for work and play
- Partnerships and Services: the mutually supportive links between schools and the wider community, like parents, local businesses, governmental and non-governmental organisations

Previous success with the program

Members of the research team and The NSW Department of Education and Training have undertaken some preliminary work on school resiliency programs based on the HPS Framework.

The One Stop Shop program was undertaken between 2002 and 2006. It was a collaborative initiative coordinated by Hunter New England Population Health in partnership with three schools within one local government area, local youth services and the Hunter Institute of Mental Health.

The program aimed to improve the health and wellbeing (H&WB) of young people attending three schools. The specific objectives of the program were to:

- Increase student protective and resilience factors.
- Decrease student health risk behaviour. The health risk behaviours assessed were alcohol, tobacco and other drug use.

Intervention

A multi strategic approach was utilised to address student protective and resilience factors. In particular, within this framework, a number of broad intervention strategies were implemented including:

- A needs based approach. Student, staff and parent surveys were undertaken to inform planning.
- A local consensus and adaptation process including school and community input.
  - Establishment of core groups at each school and advisory groups.
  - Issues identification and prioritisation, H&WB planning, and collaborative review workshops.
- Staff professional development and training. Staff training will occur within schools hours.
- Funding to cover teacher release time to attend professional development and participate in H&WB planning.
- Allocation of a project officer to assist in the development and implementation of H&WB planning. The project officer was situated within one of the three schools and travelled to the other two schools on a regular basis.
- Resources and tools:
  - Database designed to collate and report student, parent and staff data
  - H&WB Action Planning Guide to support schools.

Outcomes

There was a significant increase in both protective and resilience factor scores at the One Stop Shop schools. There was also a significant decrease in risk taking behaviour at the One Stop Shop schools. In particular the prevalence of the following indicators decreased:

- ever smoking decreased by 23.8%
- smoking in the last three months decreased by 12.9%
- being a current smoker decreased by 12.0%
- consumption of one or more alcoholic drinks in the last 3 months decreased by 19.2%
- consumption of five or more drinks on one or more days decreased by 16.4%
- marijuana use in the last 3 months decreased by 9.5%

Given the success of the One Stop Shop program, the research team has received funding from the National Health and Medical Research Council of Australia and the nib Foundation to further test the effectiveness of this program. This program is now called Healthy Schools, Healthy Futures.

THE HEALTHY SCHOOLS, HEALTHY FUTURES PROGRAM

The Healthy Schools, Healthy Futures Program involves a randomised control trial of a group of secondary students in years seven through 10, from 32 schools within the Hunter New England Area Health Service of New South Wales (NSW). Schools from both the Department of Education and Training and the Catholic sector have been randomly selected to participate and randomly allocated to either an intervention or control condition, stratified by school size and geographic location (12 control, 20 intervention).

The program aims to build the sustainable capacity of each school to address student resilience. The strategies to be implemented as part of the Healthy Schools, Healthy Futures Program will be implemented using the Health Promoting School approach.12 The Health Promoting Schools (HPS) Framework, developed by the World Health Organisation links the curriculum with the school's ethos and environment and its partnerships with the community. Implementation of the HPS Framework in the Healthy Schools, Healthy Futures Program will involve:

Curriculum, teaching and learning

- Implementation of curriculum programs that address increasing resilience
- Implementation of further curriculum programs targeting resilience and protective factors. These program may include: Resourceful Adolescent Program; Rock and Water; Friends for Youth; Aussie Optimism; Bounce Back; Adolescents Coping with Emotion and; Resilient Kids.

Ethos and environment

- Modification of school policies e.g. bullying, safe environments, & school connection.
- Implementation of peer support programs.
- Enhancement of role of School Representative Councils and students in school events

Partnerships and services

- Promotion of links with community organisations such as Aboriginal and Torres Strait Islander organisations, mental health services, and youth programs.
- Access to youth services in school hours to increase effective help seeking.
- Active engagement of parents via school-initiated activities e.g. family fun nights.

Roles and responsibilities

In order to successfully implement a comprehensive program, it is important that everyone involved is aware of, and accepts their roles and responsibilities. As such, a brief outline of the roles and responsibilities of schools, principals, school teachers, other staff members, students and the research team is provided below.

Principals

- Provide a suitable working space for the School Project Officer.
- Attend Healthy Schools Advisory Group meetings, held once per term.
- Nominate appropriate members of staff to participate in the implementation.

Schools

- Provide an appropriate work space for the School Project Officer.
- Conduct an annual School Needs Assessment to gather evidence about the needs of the school community with assistance from the School Project Officer. Online surveys have been developed to minimise the time and resource required to do this.
- Development of an implementation plan that will be endorsed by the school executive, and integrated into existing school and student welfare governance processes.

Teachers and other staff

- Participate in annual staff surveys.
- Nominated staff to attend appropriate resiliency training.
- Nominated staff to attend Core Team meetings.
- Staff to be encouraging of a school environment that is supportive of student resilience.

Students

- All students in Years 7-10 to participate in annual student surveys. The student surveys ask questions about the student's resilience and protective characteristics and student health risk behaviour, such as alcohol consumption, smoking, illicit drug use, physical inactivity, poor nutrition, and sexual practices (Year 10 only). The student survey also asks about the student's child's experience of bullying and about family and friend's tobacco and alcohol use.
- Nominated students to participate in Core Team meetings
- All students should benefit from initiatives implemented within the school regarding resiliency but this should be seen by students as usual school business.

Research team

- Provide a School Project Officer to support the implementation of the program across the schools. The role of the project officer is to reduce the burden on teachers and other staff members during the planning and implementation phase.
- Provide resources for the project officer, for example laptop, mobile phone, stationery and a car allowance.
- Provide seed funding for teacher release time to attend training and participate in program planning, implementation and monitoring.
- Provide resources and tools developed in the trial of the Healthy Schools program.

The School Project Officer will undertake the following to support the schools:

- Maintain membership of School H&WB Teams and all meetings for each school each term.
- Support schools to complete an annual School Needs Assessment, including student and teacher and parent surveys. The research team will collate, analyse and report outcomes of surveys and audits to schools. This data will be provided in a form that can easily be incorporated into school reports and newsletters.
- Facilitate Workshops and Planning days relating to H&WB Planning and contribute health related expertise as appropriate.
- Collate a review of literature to assist schools to select strategies based on criteria (e.g. evidence of effectiveness, culturally appropriate).
- Support the development of the school H&WB Action Plan.
- Support implementation of selected strategies, for example assist with curriculum planning.

- Circulate relevant information to schools and youth services sector, including potential funding opportunities.
- Support schools to source external funding for the implementation of school based H&WB initiatives.

References

1. Australian Institute of Health and Welfare. Australia's young people: their health and wellbeing 2003. Canberra: Australian Institute of Health and Welfare; 2003. Report No.: AIHW cat no. PHE 50.
2. Population Health Division. The Health of the people of New South Wales - Report of the Chief Health Officer. 2006 [cited 08/05/2007]; Available from: URL: http://www.health.nsw.gov.au/public-health/chorep/toc/pre_about.htm
3. Smith A, Agius P, Mitchell A, Barrett C, Pitts M. 2009. Secondary Students and Sexual Health 2008, Monograph Series No. 70, Melbourne: Australian Research Centre in Sex, Health & Society, La Trobe University.
4. Guo J, Hill KG, Hawkins JD, Catalano RF, Abbott RD. A developmental analysis of sociodemographic, family, and peer effects on adolescent illicit drug initiation. Journal of the American Academy of Child & Adolescent Psychiatry 2002;41(7):838-45.
5. Gottfredson DC, Gottfredson GD, Hybl LG. Managing Adolescent Behavior A Multiyear, Multischool Study. American Educational Research Journal 1993;30(1):179-215.
6. Patton GC, Bond L, Carlin JB, Thomas L, Butler H, Glover S, et al. Promoting social inclusion in schools: a group-randomized trial of effects on student health risk behavior and well-being. American Journal of Public Health 2006;96(9):1582-7.
7. Bernard B. Fostering Resiliency in Urban Schools. Closing the achievement gap: A vision for changing beliefs and practices. Virginia: Association for Supervision and Curriculum Development; 1996.
8. Toumbourou JW. Drug Prevention Strategies: A Developmental Settings Approach Prevention Research Evaluation Report Number 2. Melbourne: Australian Drug Foundation; 2002.
9. Harvey J, Delfabbro PH. Psychological resilience in disadvantaged youth: A critical overview. Australian Psychologist 39[1], 3-13. 2004.
10. Wyn J, Cahill H, Holdsworth R, Rowling L, Carson S. MindMatters, a whole-school approach promoting mental health and wellbeing. Australian & New Zealand Journal of Psychiatry 2000;34(4):594-601.
11. Stewart-Brown S. What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach? Copenhagen: WHO Regional Office for Europe (Health Evidence Network report); 2006
12. WHO. Promoting health through schools- The WHO Global School Initiative. Geneva: 1996

Appendix 4.2: Student Information Statement Intervention and Control Schools

Hunter New England Population Health
Direct Contact Details
Phone: (02) 4924 6477 Fax: (02) 4924 6490
Email: PHEnquiries@hnehealth.nsw.gov.au

'HEALTHY SCHOOLS, HEALTHY FUTURES'

INFORMATION FOR STUDENTS

Hi, we are researchers from The University of Newcastle and would like to invite you to be part of the 'Healthy Schools, Healthy Futures' survey being conducted by Dr John Wiggers from The University of Newcastle in collaboration with Hunter New England Population Health.

The survey asks about your health and wellbeing including:
- Things about you that help you cope or bounce back if you have a set back in your life (things like self-esteem, empathy, and communication),
- Things in your life which are supportive (like school, community and family),
- Risky behaviours that can harm your health (like cigarette smoking and drinking alcohol).

Your school has been picked along with other schools in the Hunter and New England area to participate and it would be great if you could help. This information will allow us to make programs to help students stay healthy and make responsible decisions about their behaviour.

What will happen?

- We will ask you to fill in an online survey. The survey will ask some questions about you, and how you feel about school and home. The survey will also ask about your health behaviours including questions about your diet, physical activity, sexual practices (if you are in Year 10), tobacco, alcohol and illicit drug use. The survey also asks about your experience of bullying and harassment and includes questions about family and friend's tobacco and alcohol use.
- The survey will take place during class time in Term 3 or Term 4 in 2014 and will take about 30 minutes to complete.
- [Additional content included for CSO schools only]: Second, if you are in Year 10 this year we may ask you to participate in another part of the study that looks at smoking. We will ask every tenth student in Year 10 to provide a saliva sample for testing. This is voluntary and you can participate in the survey without having to complete the smoking study. Your parents, friends, teachers or anyone else will not be able to find out the results of your test.

Do I have to do the study?

- No. It is up to you. If you decide to take part you can stop at anytime. If you decide not to take part or want to stop taking part it will not affect you in anyway.
- If you decide to stop taking part you can ask that the information you provided is erased.
- Also if a teacher notices that participation in the survey is concerning you, he/she will speak with you privately and may decide to withdraw you from the study.
- If anything about the survey is concerning you, or you are concerned about anything you read in the survey you could speak with your parents, teachers, school counsellor, head teacher welfare, doctor, another trusted adult or the Kids Helpline (Ph: 1800 55 1800).

What will happen to the information I provide?

- Your name will not be used and all your results will be kept locked away by the researchers. When you start the survey you will log on to a web page using a unique student identification number. In this way the files containing your answers will be separated from the files containing your name.
- Whilst it is necessary for your parents to give permission for you complete the survey, your answers are confidential. This means that no one will have access to your completed survey other than the members of the research team. Your parents, friends, teachers or anyone else will not be able to find out any of your answers.
- The data collected in this survey is intended to be used by The University of Newcastle and in a thesis by PhD students, Ms Rebecca Hodder and Ms Julia Dray, under the supervision of Dr John Wiggers, Dr Megan Freund and Dr Jennifer Bowman.
- The information will be used to help develop programs to encourage children to make healthy choices. We will write some reports with the information, but the reports will not be about you and your name will not be included in any of the reports.

Who is conducting the study?

- The person in charge of the study is Dr John Wiggers who is Chief Investigator of the program at The University of Newcastle.

What if I want more information?

If you would like more information about the study you could speak to your parents. You can also call Dr Megan Freund, Program Manager at The University of Newcastle on: (02) 4924 6477.

How do I join in?

- If you think it is a good idea and you want to join the study you will need to get your parents to sign the consent form attached to your parent's information letter and return it in the reply paid envelope provided.
- If you are unsure whether to join you could speak with your parents, teachers, school counsellor, head teacher welfare, doctor, or another trusted adult.

Thank you for thinking about joining the project.

Dr John Wiggers

Director

Hunter New England Population Health

This project has been approved by Hunter New England Human Research Ethics Committee of Hunter New England Health (Ref 09/11/18/4.01), The University of Newcastle Human Research Ethics Committee (Ref H-2010-0029), Department of Education and Training (Ref 2008118) and Aboriginal Health and Medical Research Council of New South Wales (Ref 776/11).

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, Manager Research Ethics and Governance, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305 or Telephone (02) 4921 4950, email Nicole.Gerrand@hnehealth.nsw.gov.au.

Researchers on the 'Healthy Schools, Healthy Futures' project: Dr John Wiggers (Hunter New England Population Health and The University of Newcastle), Dr Elizabeth Campbell (Hunter New England Population Health and The University of Newcastle), Dr Luke Wolfenden (The University of Newcastle and the Cancer Institute), Dr Jennifer Bowman (The University of Newcastle), and Dr Megan Freund (The University of Newcastle).

Appendix 4.3: Parent Information Statement for Baseline Data Collection 2011

Note: variations made to the statement for intervention and control schools, as well as CSO and DET schools are noted in square brackets throughout.

Hunter New England Population Health

Direct Contact Details
Locked Bag 10
Wallsend NSW 2287
Phone: (02) 4924 6477   Fax: (02) 4924 6490
Email: PHEnquiries@hnehealth.nsw.gov.au

'HEALTHY SCHOOLS, HEALTHY FUTURES'
PARENT/CARER INFORMATION SHEET

Please keep this sheet for your information in the future

You and your child/children are invited to take part in the 'Healthy Schools, Healthy Futures' program which is being conducted by The University of Newcastle in collaboration with Hunter New England Population Health. This program aims to improve the health and wellbeing of young people in the Hunter New England Region. The program focuses on enhancing student resilience (including the personal skills of the young person, such as communication and cooperation skills, self-esteem, empathy, problem-solving, self-awareness, and appropriate goals and aspirations) and decreasing the likelihood of engaging in risky health behaviours such as cigarette smoking and drinking alcohol.

This program has been trialled in three government high schools and the findings were encouraging. Results indicated a significant increase in student resilience, and significant decreases in tobacco, alcohol and other drug use.

To further examine the effectiveness of 'Healthy Schools, Healthy Futures' The University of Newcastle is undertaking a controlled study in 32 high schools. Twenty schools have been randomly allocated to receive the 'Healthy Schools, Healthy Futures' intervention and the other 12 schools have been randomly allocated to be control schools. Your child's/children's school has been allocated to be an [insert treatment] school. The study will run for four years between 2011 and 2014 in the school.

To evaluate the success of the 'Healthy Schools, Healthy Futures' program we will be conducting student, staff and parent surveys over the 4 years of the program. The student surveys ask questions about the student's resilience characteristics and student health risk behaviour, such as alcohol consumption, smoking, illicit drug use, physical inactivity, and poor nutrition. The student survey also asks about your child's/children's experience of bullying and harassment and includes questions about family and friend's tobacco and alcohol use. [Content for intervention schools only: The parent and staff surveys will only be conducted in intervention schools and asks about factors contributing to the health and wellbeing of children. In addition to evaluating the outcomes of the project, the information from the student, staff and parent surveys will be used to assist intervention schools to identify, plan and implement strategies and initiatives to address health and wellbeing within the school.] In addition to these surveys, some students will be asked to wear a pedometer for 7 days to confirm their reported participation in physical activity and some students will be asked to participate in saliva testing to confirm their reported tobacco use. The data collected in this program is intended to be used by The University of Newcastle, and in a thesis by a PhD student, Ms Rebecca Hodder, under the supervision of Dr John Wiggers, Dr Megan Freund and Dr Jennifer Bowman.

Who can participate?
We are asking students in Years 7, 8, 9 and 10 from all over the Hunter New England Area and their parents to participate in this study. Your child's/children's school was chosen from a list of Hunter New England schools.

Do you or your child/children have to participate?
Your child's/children's participation in the student survey, physical activity and smoking validation is entirely your choice. Only those students whose parents give their consent will be able to participate. Where parent consent is given, the final decision on the day is your child's/children's. You or your child/children can decide to withdraw from the survey at anytime and a reason for withdrawal is not required. If your child/children decide to withdraw from the study then we will delete any information your child/children has provided. If you or your child/children decide to not participate or withdraw from this study at any time, it will not affect your relationship with the school or with any of the services offered by The University of Newcastle or the Hunter New England Area Health Service.

[This paragraph for intervention schools only]: For the parent survey, your participation is also voluntary. However your opinions are valuable to us and will assist in the development of initiatives to address the health and wellbeing of students.

What do you and your child/children have to do?
Students will be asked to complete an online survey in class time which will ask about themselves and their health behaviours. The questionnaire will take approximately 25 minutes of class time for your child/children to complete.

A random sample of students will also be selected to wear a pedometer. A pedometer is a small portable device that counts each step a person takes. Using pedometers is considered a good way to do research where physical activity is of interest. Students selected to participate in the pedometer study will be provided with a pedometer that attaches to their waist-band and can be worn out of sight under a shirt or jumper. Selected students will wear the pedometer all day for seven days. Each weekday morning, the number of steps on the pedometer will be recorded, and the pedometer will be reset. As with all of the information collected in this program, the information collected from the pedometers is confidential and the student's name will not be recorded with them.

[This paragraph for CSO schools only]: A different random sample of students will be asked to provide a sample of saliva to see if they have smoked tobacco recently. Similarly we would like to test saliva samples on a small proportion of students as asking students about their smoking and doing a test for smoking is considered to be the best way to do research on smoking. To provide a saliva sample, members of the research team will ask the student to spit into a cup. This sample will then be tested to see whether they have recently smoked a cigarette. The saliva test will take about 60 seconds, however the results will not be known for 30 minutes and the student will not be told what they are. The test results are confidential and the student's name will not be recorded with them. Once the results have been recorded, saliva samples will be disposed.

[This paragraph for intervention schools only]: Some students, nominated by the school, will be asked to assist with planning for the Healthy Schools, Healthy Futures program. For example students will be key participants in health and well-being planning days.

[References to parent surveys throughout were included for intervention schools only]: Parents of children who attend intervention schools are also asked to complete an annual survey about the factors that contribute to the health and wellbeing of their child/children

annually in Year 1 (2011) through to Year 4 (2014). This includes questions about how your child/children feel at school, and how supportive and encouraging the school is to you and your child/children. The survey will take approximately 15 minutes to complete and you can either complete the survey online or in written form. A hard copy of the parent survey including instructions of how to access the online survey will be mailed to you during Term 3.

When will the information be collected?
Both the student and parent survey will take place in Term 3 of each year.

Who will see the information that is collected?
For both the student and parent survey, any information provided will be treated as strictly confidential. Student names will not be recorded with the information they provide. When your child/children starts the survey he/she will log on to a web page using a unique student identification number. In this way the files containing his/her answers will be separated from the files containing his/her name. Your child's/children's identity will not be revealed to anyone other than the investigators conducting the project. All answers provided are confidential and individual student answers will not be provided to school staff, parents, or friends. Only the researchers from The University of Newcastle will have access to the student data. The student data will be stored on a secure University of Newcastle server and be kept in the strictest confidence, as required by law. The data will only be published in summary form, with no mention of particular individuals. Your child/children may be asked to complete a similar survey each year for the next three years. The survey will be available at your child's/children's school for both you and your child/children to view prior to the survey period.

For the parent survey, you or your child's/children's name will not be recorded with the information provided and your identity will not be revealed to anyone other than the investigators conducting the study. This means that neither other parents, teachers nor anyone else other than members of the research team will have access to your completed survey. The parent survey is anonymous and we will not ask for parents' names to be recorded on the surveys. Only the research team from The University of Newcastle will have access to the completed questionnaires. The paper forms will be stored in a secure facility, and any parent data from the online version of the survey stored on a secure University of Newcastle server and with both being kept in the strictest confidence, as required by law. As with the student survey, the data may be published in summary form, with no mention of particular individuals.

How will we ensure the well-being of your child/children?
This project has been approved by the [CSO schools]: Catholic Schools Offices or [DET schools]: Department of Education and Training and ethical clearance has been given from the Hunter New England Area Health Service and The University of Newcastle where we have made a commitment to protect the safety, privacy and self-esteem of all students. All staff will have appropriate child protection clearance and training, and teachers from the school will be with your child/children at all times to monitor their well-being.

If research staff or teachers notice that participation in the study is concerning your child/children, a teacher will speak with them privately and may decide to withdraw them from the study.

If anything about the survey is concerning you or your child/children, you and your child/children could speak about it with your school counsellor or doctor.

Feedback

A summary report of the results of the student annual survey results will be provided to your school for publication within the school newsletter. The summary report will not identify individuals. At the completion of the study all schools will be provided a report outlining the study results. Results of the study may be presented at scientific conferences and be published within scientific journals.

Consent for my child/children to participate
You are being asked to consent to you and your child's/children's participation in annual surveys from 2011 to 2014. Please read and be clear on the information provided above, and discuss the study with your child/children before making a decision. Please ask your child/children to read the enclosed student information sheet. If you would like your child/children to participate, you need to sign the attached consent form. **Please return the completed green permission note to your school within 2 weeks. If a permission note has not been received in 2 weeks**, parents will be contacted by phone to ask about their child's/children's participation in the survey. If you do not wish for your child/children to participate in the survey and you do not want to be contacted by phone to ask about their participation, you can call this toll free number 1800 455 970 where a message can be left 24 hours a day. Clearly state your first name and surname, your child's/children's first name and surname and the name of your child's/children's school. Your name and your child's/children's name will then be withdrawn from the survey list and you will NOT be contacted by phone. Alternatively, you can tell school staff that you do not want your child/children to participate in the survey when they call you.

If you would like more information regarding this study please contact Dr Megan Freund, Program Manager at The University of Newcastle on (02) 4924 6477.

Thankyou for considering this invitation, the information that your child/children provides will help to develop initiatives to improve the health and wellbeing of all students.

Dr John Wiggers
Director
Hunter New England Population Health

This project has been approved by Hunter New England Human Research Ethics Committee of Hunter New England Health (Ref 09/11/18/4.01), The University of Newcastle Human Research Ethics Committee (Ref H-2010-0029), Department of Education and Training (Ref 2008118) and Aboriginal Health and Medical Research Council of New South Wales (Ref 776/11).

Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, Manager Research Ethics and Governance, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305 or Telephone (02) 4921 4950, email Nicole.Gerrand@hnehealth.nsw.gov.au.

Researchers on the 'Healthy Schools, Healthy Futures' project: Dr John Wiggers (Hunter New England Population Health and The University of Newcastle), Dr Elizabeth Campbell (Hunter New England Population Health and The University of Newcastle), Dr Luke Wolfenden (The University of Newcastle and the Cancer Institute), Dr Jennifer Bowman (The University of Newcastle), and Dr Megan Freund (The University of Newcastle).

Appendix 4.4: Parent Information Statement for Follow-up Data Collection 2014

Note: variations made to the statement for intervention and control schools, as well as CSO and DET schools are noted in square brackets throughout.

Hunter New England Population Health

Direct Contact Details
Locked Bag 10
Wallsend NSW 2287
Phone: (02) 4924 6477   Fax: (02) 4924 6490
Email: PHEnquiries@hnehealth.nsw.gov.au

'HEALTHY SCHOOLS, HEALTHY FUTURES'
PARENT/CARER INFORMATION SHEET AND CONSENT FORM FOR STUDENT PARTICIPATION

Please keep this sheet for your information in the future

Your child/children are invited to take part in the 'Healthy Schools, Healthy Futures' program which is being conducted by The University of Newcastle in collaboration with Hunter New England Population Health. This program aims to improve the health and wellbeing of young people in the Hunter New England Region. The program focuses on enhancing student resilience (including the personal skills of the young person, such as communication and cooperation skills, self-esteem, empathy, problem-solving, self-awareness, and appropriate goals and aspirations) and decreasing the likelihood of engaging in risky health behaviours such as cigarette smoking and drinking alcohol.

This program has been trialled in three government high schools and the findings were encouraging. Results indicated a significant increase in student resilience, and significant decreases in tobacco, alcohol and other drug use.

To further examine the effectiveness of 'Healthy Schools, Healthy Futures' The University of Newcastle is undertaking a controlled study in 32 high schools. Twenty schools have been randomly allocated to receive the 'Healthy Schools, Healthy Futures' intervention and the other 12 schools have been randomly allocated to be control schools. Your child's/children's school has been allocated to be an [insert treatment condition] school. The study will run for four years between 2011 and 2014 in the school.

To evaluate the success of the 'Healthy Schools, Healthy Futures' program we will be conducting student and staff surveys over the 4 years of the program, and parent surveys were undertaken in 2011. The student surveys ask questions about the student's resilience characteristics and student health risk behaviour, such as alcohol consumption, smoking, illicit drug use, physical inactivity, and poor nutrition. The student survey also asks about your child's/children's experience of bullying and harassment and includes questions about family and friend's tobacco and alcohol use.

[This paragraph for intervention schools only]: The parent and staff surveys will only be conducted in intervention schools and ask about factors contributing to the health and wellbeing of children. In addition to evaluating the outcomes of the project, the information from the student, staff and parent surveys will be used to assist intervention schools to identify, plan and implement strategies and initiatives to address health and wellbeing within the school.

[Content regarding saliva testing throughout for Year 10 students at CSO schools only]: In addition to these surveys, in 2014 some students in Year 10 will be asked to participate in saliva testing to confirm their reported tobacco use.

The data collected in this program is intended to be used by The University of Newcastle, and in a thesis by PhD students, Ms Rebecca Hodder and Ms Julia Dray, under the supervision of Dr John Wiggers, Dr Megan Freund and Dr Jennifer Bowman.

Who can participate?
We are asking students from all over the Hunter New England area to participate in this study. Your child's/children's school was chosen from a list of Hunter New England schools.

[Included for parents of Year 10 CSO school students only]: In 2014 we are asking for your consent for your child/children in **Year 10** to take part in student surveys and saliva testing.

Do your child/children have to participate?
Your child's/children's participation in the student survey and saliva testing is entirely your choice. Only those students whose parents give their consent will be able to participate. Where parent consent is given, the final decision on the day is your child's/children's. Your child/children can decide to withdraw from the survey at anytime and a reason for withdrawal is not required. If your child/children decide to withdraw from the study then we will delete any information your child/children has provided. If your child/children decide to not participate or withdraw from this study at any time, it will not affect your relationship with the school or with any of the services offered by The University of Newcastle or the Hunter New England Local Health District.

What do your child/children have to do?
In 2014 students will be asked to complete an online survey in class time which will ask about themselves and their health behaviours. The questionnaire will take approximately 30 minutes of class time for your child/children to complete.

In 2014 a random sample of students who are in Year 10 this year will be asked to provide a sample of saliva to see if they have smoked tobacco recently. We would like to test saliva samples on a small proportion of students as asking students about their smoking and doing a test for smoking is considered to be the best way to do research on smoking. To provide a saliva sample, members of the research team will ask the student to spit into a cup. This sample will then be tested to see whether they have recently smoked a cigarette. The saliva test will take about 60 seconds, however the results will not be known for 30 minutes and the student will not be told what they are. The test results are confidential and the student's name will not be recorded with them. Once the results have been recorded, saliva samples will be disposed.

When will the information be collected?
Student surveys and saliva testing will take place Term 3 or Term 4 in 2014.

Who will see the information that is collected?
For the student survey, any information provided will be treated as strictly confidential. Student names will not be recorded with the information they provide. When your child/children start the survey he/she will log on to a web page using a unique student identification number. In this way the files containing his/her answers will be separated from the files containing his/her name.

Your child's/children's identity will not be revealed to anyone other than the investigators conducting the project. All answers provided are confidential and individual student answers will not be provided to school staff, parents, or friends. Only the researchers from The University of Newcastle will have access to the student data. The student data will be stored on a secure University of Newcastle server and be kept in the strictest confidence, as required by law. The data will only be published in summary form, with no mention of particular individuals. The survey will be available at your child's/children's school for both you and your child/children to view prior to the survey period.

How will we ensure the well-being of your child/children?

This project has been approved by the [CSO schools]: Catholic Schools Office or [DET schools] Department of Education and Training and ethical clearance has been given from the Hunter New England Local Health District and The University of Newcastle where we have made a commitment to protect the safety, privacy and self-esteem of all students. All staff will have appropriate child protection clearance and training, and teachers from the school will be with your child/children at all times to monitor their well-being.

If research staff or teachers notice that participation in the study is concerning your child/children, a teacher will speak with them privately and may decide to withdraw them from the study.

If anything about the survey is concerning you or your child/children, you and your child/children could speak about it with your school counsellor or doctor.

Feedback

A summary report of the results of the student annual survey results will be provided to your school for publication within the school newsletter. The summary report will not identify individuals. At the completion of the study all schools will be provided a report outlining the study results. Results of the study may be presented at scientific conferences and be published within scientific journals.

Consent for my child/children to participate

You are being asked for your consent for your child/children who are in **Year 10** this year to participate in the 2014 student surveys.

[CSO schools only]: You are also being asked for your consent for your child/children who are in **Year 10** this year to have their saliva checked for tobacco if they are selected to do so.

Please read and be clear on the information provided above, and discuss the study with your child/children before making a decision. Please ask your child/children to read the enclosed student information sheet. If you would like your child/children to participate, you need to sign the attached consent form. **Please return the completed green permission note to your school within two weeks. If a permission note has not been received in two weeks**, parents may be contacted by phone by school staff to ask about their child's/children's participation in the survey.

If you do not wish for your child/children to participate in the survey and you do not want to be contacted by phone to ask about their participation, you can call this toll free number **1800 770 825** where a message can be left 24 hours a day. Clearly state your first name and surname, your child's/children's first name and surname and the name of your child's/children's school. Your name and your child's/children's name will then be withdrawn from the survey list and you will NOT be contacted by phone. Alternatively, you can tell school staff that you do not want your child/children to participate in the survey when they call you.

If you would like more information regarding this study please contact Dr Megan Freund, Program Manager at The University of Newcastle on (02) 4924 6477.

Thank you for considering this invitation, the information that your child/children provides will help to develop initiatives to improve the health and wellbeing of all students.

Dr John Wiggers
Director
Hunter New England Population Health

Researchers on the 'Healthy Schools, Healthy Futures' project: Dr John Wiggers (Hunter New England Population Health and The University of Newcastle), Dr Elizabeth Campbell (Hunter New England Population Health and The University of Newcastle), Dr Luke Wolfenden (The University of Newcastle and the Cancer Institute), Dr Jennifer Bowman (The University of Newcastle), and Dr Megan Freund (The University of Newcastle).

Appendix 4.5: Student Parental Consent Form Intervention and Control Schools

'HEALTHY SCHOOLS, HEALTHY FUTURES'
Consent form for student participation

Parents and students please read, and parents please sign and return this form to school within 2 weeks if you wish to participate

I have read and fully understand the contents of this information sheet. I also acknowledge that my child/children clearly understands what is required of him/her in <insert year>.

I understand that consenting to participate in this study does not obligate me or my child/children to participate in any future research. I understand that I may withdraw my child/children from the study at any time. I understand that my child/children may choose to withdraw from the study at anytime and that the information that my child/children and I provide will be confidential and will be stored safely after the study is completed.

Please tick

I agree to give consent for my son/daughter to complete a questionnaire asking about his/her usual physical activity and eating habits; alcohol, tobacco and illicit drug use.　**Yes** ☐　　**No** ☐

For child/children in Year 10 only: [CSO only]
I agree to give consent for my son/daughter to participate in saliva testing if randomly selected to do so.　**Yes** ☐　　**No** ☐

Parent/Guardian First Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Parent/Guardian Surname: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Parent/Guardian Signature: _____ Date: _____

Son/Daughter First Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Son/Daughter Surname: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

From　　Year 9 ☐　　　　Year 10 ☐

Son/Daughter Signature: _____ Date: _____

Please return this consent form using the enclosed reply paid envelope or give to your child to return to his/her school.

Researchers on the 'Healthy Schools, Healthy Futures' project: Dr John Wiggers (The University of Newcastle), Dr Elizabeth Campbell (The University of Newcastle and Hunter New England Population Health), Dr Luke Wolfenden (The University of Newcastle and the Cancer Institute), Dr Jenny Bowman (The University of Newcastle), Dr Megan Freund (The University of Newcastle)　　　　　　　　<School Name>

Appendix 4.6: School Consent Form Catholic Intervention and Control Schools

Hunter New England Population Health

Direct Contact Details
Phone: (02) 4924 6477 Fax: (02) 4924 6490
Email: PHEnquiries@hnehealth.nsw.gov.au

HUNTER NEW ENGLAND
NSW⊕HEALTH

CONSENT FORM
Healthy Schools, Healthy Futures program

Those who **WISH** to participate in the Healthy Schools, Healthy Futures program should complete this section and return it to Hunter New England Population Health via fax (fax: (02) 4924 6490).

Name of school_____ <School name>_____

Name of Liaison Person _____ <Name of liaison person>_____

Telephone number of Liaison Person (_____)_____

I agree for my school to participate in the Healthy Schools, Healthy Futures program. I understand that participation in this study is voluntary and that I may withdraw my school at any time. I give permission for a member of the program to contact me / or a Liaison Person I appoint to arrange an opportunity to discuss the program and to identify a suitable date for the student survey to occur in Term 1, 2011.

_____   _____
Principal's name   Principal's signature

Those who **DO NOT WISH** to participate in the Healthy Schools, Healthy Futures program should complete this section and return it to Hunter New England Population Health via fax (fax: (02) 4924 6490).

Name of school_____ <School name>_____

I do not wish to participate in the Healthy Schools, Healthy Futures program.

_____   _____
Principal's name   Principal's signature

Appendix 5: Data Collection Tools for Chapters 2, 5 and 6

Appendix 5.1 Student survey

Healthy Schools, Healthy Futures
Year 10 Student Survey

Your answers to this survey are completely confidential. Your parents, friends, teachers or anyone else will not be able to find out any of your answers. Only the members of the research team will have access to your answers, but they will not know your name.
Please answer the questions for yourself and don't talk to anyone about your answers.
You can decide to stop taking part at any time. If anything in the survey is concerning you, please raise your hand and a member of the research team will come and talk with you. If anything about the survey is concerning you after you have finished, you could speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

Please fill in the information below by writing in the space provided and ticking the box or boxes that match your answer the best.

1. How old are you today? _____

2. Which years have you completed at this school? *(tick all that apply)*

☐ Year 7

☐ Year 8

☐ Year 9

☐ I did not attend this school in the previous years

3. Are you male or female?

☐ Male

☐ Female

4. Are you of Aboriginal or Torres Strait Islander origin?

☐ Yes, Aboriginal origin **[continue to question 5]**
☐ Yes, Torres Strait Islander origin **[continue to question 5]**

☐ Yes, both Aboriginal and Torres Strait Islander origin **[continue to question 5]**

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

☐ No **[skip to question 24]**

From here on in, the term 'Aboriginal' refers to all persons identified as being of Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander origin.

Would you describe your Aboriginal community in the following way? *Please tick one answer for each question*	A lot of the time	Sometimes	Not at all
5. My Aboriginal community is caring and supportive of me	☐	☐	☐
6. My Aboriginal community has high expectations of me	☐	☐	☐
7. My Aboriginal community encourages my participation and involvement	☐	☐	☐
8. My Aboriginal community provides opportunities for involvement	☐	☐	☐

9. How much do you feel involved in your local Aboriginal community?

☐ I feel strongly involved

☐ I feel moderately involved

☐ I feel a little involved

☐ I don't feel involved at all

10. Do you feel connected to your Aboriginal culture?

☐ No **[skip to question 12]**
☐ Yes **[continue to question 11]**
☐ Don't know **[skip to question 12]**

11. Do you identify with a tribal group, a language, clan or mob?

☐ No

☐ Yes

☐ Don't know

For the next question, please tick all that apply.

12. In the last 12 months, have you gone to any of the following Aboriginal cultural events and community activities:

    ☐ Family gatherings

    ☐ Ceremonies

    ☐ Sports carnivals

    ☐ Aboriginal or Torres Strait Islander organization events or meetings

    ☐ Special events or days

13. In the last 12 months, how many of the above Aboriginal cultural events and community activities have you gone to?

    ☐ 0 events

    ☐ 1-5 events

    ☐ 6-10 events

    ☐ 11-20 events

    ☐ 20+ events

14. Have you ever been treated unfairly because you are Aboriginal?

Examples of being treated unfairly could include:
- being a target of racist names, jokes or teasing, or heard comments that rely on stereotypes of Aboriginal people
- being sworn at, verbally abused or had someone make offensive gestures because you are Aboriginal
- felt left out or avoided because you are Aboriginal
- had someone treat you as less intelligent, or inferior because you are Aboriginal
- being ignored, treated with suspicion or treated rudely because you are Aboriginal
- had your property vandalised because you are Aboriginal
- had someone spit or throw something at you, or hit you or threaten to hit you because you are Aboriginal

    ☐ No **[skip to question 24]**
    ☐ Yes **[continue to question 15]**

24. Do you feel that Aboriginal culture and community events are valued by your school?

    ☐ No

    ☐ Yes

    ☐ Don't know

25. Are you of any other ethnic, cultural or national origin (e.g. African-American, Canadian
    ☐ Festivals or carnivals involving arts, craft, music or dance

How often are you treated unfairly because you are Aboriginal in each of the following situations… *Please tick one answer for each question*	Never	Hardly ever	Sometimes	Often	Very Often
15. At your part time job?	☐	☐	☐	☐	☐
☐ I don't have a part time job					
16. By neighbours or when you are at somebody else's house?	☐	☐	☐	☐	☐
17. At school?	☐	☐	☐	☐	☐
18. While doing sport or other leisure activities?	☐	☐	☐	☐	☐
19. By the police or security personnel?	☐	☐	☐	☐	☐
20. By doctors, nurses or other staff at hospitals, or at the doctors?	☐	☐	☐	☐	☐
21. By staff at restaurants, shops, in taxis or when getting any other services?	☐	☐	☐	☐	☐
22. By other people on the street, at shopping centres, sporting events, concerts?	☐	☐	☐	☐	☐
23. By other Aboriginal people?	☐	☐	☐	☐	☐

or Chinese)?

    ☐ No **[skip to question 36]**

    ☐ Yes **[continue to question 26]**

26. Which ethnic, cultural or national origin are you? Please write your answer in the box below

---

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

27. Have you ever been treated unfairly because you are from another ethnic, cultural or national background?

    ☐ No **[skip to question 36]**

    ☐ Yes **[continue to question 28]**

How often are you treated unfairly because you are from another ethnic cultural or national background in each of the following situations... *Please tick one answer for each question*	Never	Hardly ever	Sometimes	Often	Very Often
28. At your part time job? ☐ I don't have a part time job	☐	☐	☐	☐	☐
29. By neighbours or when you are at somebody else's house?	☐	☐	☐	☐	☐
30. At school?	☐	☐	☐	☐	☐
31. While doing sport or other leisure activities?	☐	☐	☐	☐	☐
32. By the police or security personnel?	☐	☐	☐	☐	☐
33. By doctors, nurses or other staff at hospitals or at the doctors?	☐	☐	☐	☐	☐
34. By staff at restaurants, shops, in taxis or when getting any other services?	☐	☐	☐	☐	☐
35. By other people on the street, at shopping centres, sporting events or concerts?	☐	☐	☐	☐	☐

36. Do you speak a language other than English at home?

    ☐ No

    ☐ Yes

37. What is the postcode where you usually live? ☐☐☐☐

38. How much pocket money did you receive last week from unpaid employment? (e.g. chores around the house)

    ☐ $0, I didn't receive any pocket money in the last week

    ☐ Less than $5

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

☐ $5 to $15

☐ $16 to $30

☐ More than $30

39. How much money did you earn last week from paid employment? (e.g. paper route or working at McDonalds)

☐ $0, I didn't receive any money in the last week from paid work

☐ Less than $30

☐ $30 to $50

☐ $51 to $80

☐ More than $80

These questions ask about your goals and plans for the future

	Never True	True some of the time	True most of the time	True all of the time
40. I have goals and plans for the future	☐	☐	☐	☐
41. I plan to carry on and finish Year 12	☐	☐	☐	☐
42. I plan to go to university or TAFE or do some other training after high school	☐	☐	☐	☐

These next questions ask about your thoughts and how you find help

	Never True	True some of the time	True most of the time	True all of the time
43. I know where to go for help with a problem	☐	☐	☐	☐
44. I try to work out my problems by talking or writing about them	☐	☐	☐	☐
45. When I need help I find someone to talk with	☐	☐	☐	☐

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

		Never True	True some of the time	True most of the time	True all of the time
46.	I can do most things if I try	☐	☐	☐	☐
47.	I can work with someone who has different opinions to mine	☐	☐	☐	☐

		Never True	True some of the time	True most of the time	True all of the time
48.	I can work out my own problems	☐	☐	☐	☐
49.	There are many things I do well	☐	☐	☐	☐
50.	I feel bad when someone gets their feelings hurt	☐	☐	☐	☐
51.	I try to understand what other people go through	☐	☐	☐	☐
52.	I try to understand what other people feel and think	☐	☐	☐	☐
53.	I enjoying working with other students my age	☐	☐	☐	☐
54.	I can stand up for myself without putting others down	☐	☐	☐	☐
55.	There is a purpose to my life	☐	☐	☐	☐
56.	I understand my moods and feelings	☐	☐	☐	☐
57.	I understand why I do what I do	☐	☐	☐	☐

These questions ask about your friends

		Never True	True some of the time	True most of the time	True all of the time
58.	I have at least one friend who really cares about me	☐	☐	☐	☐
59.	I have at least one friend who talks with me about my problems	☐	☐	☐	☐
60.	I have at least one friend who helps me when I'm having a hard time	☐	☐	☐	☐
61.	My friends get into a lot of trouble	☐	☐	☐	☐

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

		Never True	True some of the time	True most of the time	True all of the time
62.	My friends try to do what is right	☐	☐	☐	☐
63.	My friends do well in school	☐	☐	☐	☐

These questions ask about your parents and/or other adults in your home

		Never True	True some of the time	True most of the time	True all of the time
64.	In my home there is a parent or some other adult who expects me to follow the rules	☐	☐	☐	☐
65.	In my home there is a parent or some other adult who is interested in my school work	☐	☐	☐	☐
66.	In my home there is a parent or some other adult who believes that I will be a success	☐	☐	☐	☐
67.	In my home there is a parent or some other adult who talks with me about my problems	☐	☐	☐	☐
68.	In my home there is a parent or some other adult who always wants me to do my best	☐	☐	☐	☐
69.	In my home there is a parent or some other adult who listens when I have something to say	☐	☐	☐	☐
70.	I do fun things or go fun places with my parents or others	☐	☐	☐	☐
71.	I do things at home that make a difference (e.g. improve things)	☐	☐	☐	☐
72.	I help make decisions (decide what happens) with my family	☐	☐	☐	☐

These questions ask about teachers and other adults at your school

		Never True	True some of the time	True most of the time	True all of the time
73.	At my school there is a teacher or some other adult who really cares about me	☐	☐	☐	☐
74.	At my school there is a teacher or some other adult who tells me when I do a good job	☐	☐	☐	☐

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

75.	At my school there is a teacher or some other adult who listens when I have something to say	☐	☐	☐	☐
76.	At my school there is a teacher or some other adult who believes I will be a success	☐	☐	☐	☐

		Never True	True some of the time	True most of the time	True all of the time
77.	At my school there is a teacher or some other adult who notices when I am not there	☐	☐	☐	☐
78.	At my school there is a teacher or some other adult who always wants me to do my best	☐	☐	☐	☐

These questions ask about what you do in school

		Never True	True some of the time	True most of the time	True all of the time
79.	I do interesting activities at school	☐	☐	☐	☐
80.	At school, I help decide things like class activities or rules	☐	☐	☐	☐
81.	I do things at my school that make a difference (e.g. improve things)	☐	☐	☐	☐

These questions ask about adults outside of your home and school

		Never True	True some of the time	True most of the time	True all of the time
82.	Outside of my home and school there is an adult who really cares about me	☐	☐	☐	☐
83.	Outside of my home and school there is an adult who tells me I do a good job	☐	☐	☐	☐
84.	Outside of my home and school there is an adult who believes I will be a success	☐	☐	☐	☐
85.	Outside of my home and school there is an adult who I trust	☐	☐	☐	☐
86.	Outside of my home and school there is an adult who notices when I am upset about something	☐	☐	☐	☐
87.	Outside of my home and school there is an adult who always wants me to do my best	☐	☐	☐	☐

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

		Never True	True some of the time	True most of the time	True all of the time
88.	I am part of a club, sports team, church group or am involved in another activity away from school	☐	☐	☐	☐
89.	Outside of my home and school I am involved in music, art, books and reading, sport or a hobby	☐	☐	☐	☐
90.	Outside of my home and school I help other people	☐	☐	☐	☐

These next questions ask about your thoughts and feelings

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
91.	During the past month, how much of the time were you a happy person?	☐	☐	☐	☐	☐	☐
92.	How much of the time, during the past month, have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐
93.	How much of the time, during the past month, have you been a very nervous person?	☐	☐	☐	☐	☐	☐
94.	How much of the time, during the past month, have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐
95.	How much of the time, during the past month, have you felt so down in the dumps that nothing could cheer you up?	☐	☐	☐	☐	☐	☐

*For the next questions, please give your answers on the basis of how things have been for you over the last **six months.***

		Not True	Somewhat True	Certainly True
96.	I try to be nice to people. I care about their feelings	☐	☐	☐
97.	I am restless; I cannot stay still for long	☐	☐	☐
98.	I get a lot of headaches, stomach-aches and sickness	☐	☐	☐
99.	I usually share with others, for example, CDs, games, food	☐	☐	☐
100.	I get very angry and often lose my temper	☐	☐	☐
101.	I would rather be alone than with people my own age	☐	☐	☐
102.	I usually do as I am told	☐	☐	☐
103.	I worry a lot	☐	☐	☐
104.	I am helpful if someone is hurt, upset or feeling ill	☐	☐	☐
105.	I am constantly fidgeting or squirming	☐	☐	☐
106.	I have one good friend or more	☐	☐	☐
107.	I fight a lot. I can make other people do what I want	☐	☐	☐
108.	I am often unhappy, depressed or tearful	☐	☐	☐
109.	Other people my own age generally like me	☐	☐	☐
110.	I am easily distracted; I find it difficult to concentrate	☐	☐	☐
111.	I am nervous in new situations. I lose confidence easily	☐	☐	☐
112.	I am kind to younger children	☐	☐	☐
113.	I am often accused of lying or cheating	☐	☐	☐
114.	Other children or young people pick on me or bully me	☐	☐	☐
115.	I often volunteer to help others (parents, teachers, children)	☐	☐	☐
116.	I think before I do things	☐	☐	☐
117.	I take things that are not mine from home, school, or elsewhere	☐	☐	☐
118.	I get along better with adults than people my own age	☐	☐	☐
119.	I have many fears; I am easily scared	☐	☐	☐
120.	I finish the work I am doing; my attention is good	☐	☐	☐

121. Do you feel that you are a spiritual person?

☐ No

☐ Yes

☐ Don't know

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

The next questions are about harassment or bullying

Bullying is the repeated behaviour by a person or a group of people that is meant to cause distress, hurt or undue pressure. Bullying involves the abuse of power in relationships.

Bullying behaviour can be:

- *verbal* e.g. name calling, insults, threats
- *physical* e.g. hitting, tripping, spitting
- *social* e.g. ignoring, excluding
- *psychological* e.g. spreading rumours, hiding or damaging possessions, mean or nasty SMS and email messages

Harassment is any unwanted, unwelcome or uninvited behaviour which makes a person feel humiliated, intimidated or offended.

Please consider the definition above when you answer the following question	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
122. I believe bullying and harassment among students in class and on school ground is low	☐	☐	☐	☐	☐

	0 times	1 times	2 times	3 times
123. During the past 12 months, how many times have you been harassed or bullied by another student or group of students from your school?	☐	☐	☐	☐

If you tick 0 times, skip to question 125.

If you tick 1 time, 2-3 times, or 4 or more times, continue to question 124.

124. When you were bullied in the past 12 months, from whom did you ask for help?

☐ Did not ask for help

☐ Parents/guardian

☐ Friends from my school

☐ Friends not from my school

☐ Teachers/School staff member

☐ Other family members

☐ Kids Helpline

☐ Website

☐ Other

During the past 12 months, how often did these things happen to you?		This did not happen to me this year	Once or twice a year	About once a month this year	About once a week this year	Most days this year
125.	A group decided to hurt me by **ganging up** on me	☐	☐	☐	☐	☐
126.	Someone deliberately tried to hurt me by trying to **break up a friendship** I had	☐	☐	☐	☐	☐
127.	Someone tried to **frighten** me	☐	☐	☐	☐	☐
128.	I was **hurt physically** by another student	☐	☐	☐	☐	☐
129.	I was sent **threatening emails**	☐	☐	☐	☐	☐
130.	I was sent **nasty messages** on the **Internet**, e.g., through Facebook, Instagram, Snapchat	☐	☐	☐	☐	☐
131.	I was sent **nasty** text **messages** (SMS), or prank calls to my **mobile phone**	☐	☐	☐	☐	☐
132.	Someone used my **screen name** or **password**, pretending to be me to hurt someone else	☐	☐	☐	☐	☐
133.	Someone sent my **private emails**, messages, pictures or videos **to others**	☐	☐	☐	☐	☐
134.	Mean or nasty **comments or pictures** were sent or posted about me to **websites**, e.g., Facebook, Instagram, Snapchat	☐	☐	☐	☐	☐
135.	Mean or nasty **messages or pictures** were sent about me to other students' **mobile phones**	☐	☐	☐	☐	☐
136.	I was deliberately **ignored** or **left out** of things over the Internet	☐	☐	☐	☐	☐
137.	I had **nasty notes** written and circulated about me by someone at school	☐	☐	☐	☐	☐
138.	Other (please describe)					

_____

_____

_____

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

139. Do you think bullying at your school has changed in the last year?

☐ Yes – worse/more of a problem

☐ No – about the same

☐ Yes – better / less of a problem

If yes, what do you think has caused that change:

_____

140. At school work, do you consider yourself:

☐ A lot above average

☐ Above average

☐ Average

☐ Below average

☐ A lot below average

141. During the past 12 months, about how many times did you skip school or cut classes?

☐ 0 times **[skip to question 143]**

☐ 1-2 times **[continue to question 142]**

☐ A few times **[continue to question 142]**

☐ Once a month **[continue to question 142]**

☐ Once a week **[continue to question 142]**

☐ More than once a week **[continue to question 142]**

142. In the past 30 days, did you miss school for any of the following reasons? *(tick all that apply)*

☐ Illness (feeling physically sick), including problems with breathing or your teeth

☐ Felt very sad, without hope, anxious, stressed, or angry

☐ Didn't get enough sleep

☐ Didn't feel safe at school

☐ Anticipated that you would be treated unfairly at school

☐ Had to work

☐ Had to take care of or help a family member or friend

☐ Wanted to spend time with friends who don't go to your school

☐ Wanted to use alcohol or drugs

☐ Were behind in schoolwork or weren't prepared for a test or class assignment

☐ Were bored with or uninterested in school

☐ Were suspended

☐ Other reason

☐ None of these

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

The next questions are about things that affect your health

143.   Have you <u>ever</u> smoked even part of a cigarette?

☐ No **[continue to question 144]**
☐ Yes **[skip to question 145]**

144.   Do you think it would be OK for you to smoke?

☐ No **[skip to question 156]**
☐ Yes **[skip to question 156]**

145.   Have you smoked a cigarette in the <u>last four weeks</u>?

☐ No **[skip to question 154]**
☐ Yes **[continue to question 146]**

146.   Have you smoked a cigarette in the <u>last week</u>?

☐ No **[skip to question 154]**
☐ Yes **[continue to question 147]**

This question is about the number of cigarettes you have smoked during the last week.

Starting from yesterday please write the number of cigarettes that you smoked on each day of last week. If you didn't smoke any cigarettes on a day write "0".

147.   Yesterday _____
148.   2 days ago _____
149.   3 days ago _____
150.   4 days ago _____
151.   5 days ago _____
152.   6 days ago _____
153.   7 days ago _____

154.   Where, or from whom, did you get your last cigarette?

☐ Parents gave it to me

☐ Brother or sister gave it to me

☐ Took from home without permission

☐ Friend gave it to me

☐ Got someone to buy it

☐ Bought it myself

☐ Other source

155. Do you think it is OK for you to smoke?

☐ No

☐ Yes

These questions ask about whether your parents/carer think it is OK for you to smoke cigarettes

156. Does your mother, father or carer smoke cigarettes?

☐ No

☐ Yes

157. Does your mother, father or carer think it is OK for you to smoke?

☐ No

☐ Yes

158. Do you have a brother or sister? ☐ No **[skip to question 161]**
☐ Yes **[continue to question 159]**

159. Does your brother or sister smoke cigarettes?

☐ No

☐ Yes

160. Does your brother or sister think it is OK for you to smoke?

☐ No

☐ Yes

161. Do your friends smoke cigarettes?

☐ No

☐ Yes

162. Do your friends think it is OK for you to smoke?

☐ No

☐ Yes

163. Do you think that your health will be damaged if you smoke cigarettes?

☐ No

☐ Yes

For each of the following statements regarding alcohol please tick the box that corresponds to your answer

164.   Have you <u>ever</u> had a drink of alcohol? E.g. *beer, wine* or *alcopops/pre-mix drinks* (do not count sips or tastes)

☐ No **[continue to question 165]**

☐ Yes **[skip to question 166]**

165.   Do you think it would be OK for you to drink alcohol?

☐ No **[skip to question 178]**

☐ Yes **[skip to question 178]**

166.   Have you had any alcoholic drinks, such as *beer, wine* or *alcopops/pre-mix drinks* in the <u>last four</u> <u>weeks?</u> (do not count sips or tastes)

☐ No **[skip to question 176]**

☐ Yes **[continue to question 167]**

167.   Have you had any alcoholic drinks, such as *beer, wine* or *alcopops/pre-mix drinks* in the <u>last week?</u> (do not count sips or tastes)

☐ No **[skip to question 175]**

☐ Yes **[continue to question 168]**

This question is about the number of alcoholic drinks you had during the last week.

Starting from yesterday please write the number of alcoholic drinks that you had on each day of last week. If you didn't have any alcoholic drinks on a day write "0".

168.   Yesterday _____

169.   2 days ago _____

170.   3 days ago _____

171.   4 days ago _____

172.   5 days ago _____

173.   6 days ago _____

174.   7 days ago _____

175.   In the last **<u>4 weeks</u>**, how many times have you had 5 or more alcoholic drinks in a row?

☐ None

☐ Once

☐ Twice

☐ 3-6 times

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

□ 7 or more times

176.   Where, or from whom, did you get your last alcoholic drink?

□ Parents gave it to me

□ Brother or sister gave it to me

□ Took from home without permission

□ Friend gave it to me

□ Got someone to buy it

□ Bought it myself

□ Other source

177.   Do you think it is OK for you to drink alcohol?

□ No

□ Yes

178.   Does your mother, father or carer drink alcohol?

□ No

□ Yes

179.   Does your mother, father or carer think it is OK for you to drink alcohol?

□ No

□ Yes

Only answer the next two questions (questions 180 and 181) if you have a brother or sister

180.   Does your brother or sister drink alcohol?

□ No
□ Yes

181.   Does your brother or sister think it is OK for you to drink alcohol?

□ No

□ Yes

182.   Do your friends drink alcohol?

□ No

☐ Yes

183. Do your friends think it is OK for you to drink alcohol?

☐ No

☐ Yes

184. Do you think that your health will be damaged if you drink alcohol?

☐ No

☐ Yes

These questions ask about taking illegal drugs or pills

185. Have you <u>ever</u> used or tried any illegal drug or pill?

☐ No **[skip to question 188]**

☐ Yes **[continue to question 186]**

How many times in the last month have you:

	None	Once or twice	3-5 times	6-9 times	10-19 times	20-39 times	40 or more times
186. Smoked or used marijuana/cannabis (grass, hash, dope, weed, mull, yarndi, ganja, pot, a bong, a joint)	☐	☐	☐	☐	☐	☐	☐
187. Used any other illegal drug or pill to get "high", such as inhalants (e.g. paint or thinners), hallucinogens (e.g. LSD, acid, trips), amphetamines (e.g. gas, speed, ice, goey, dexies), ecstasy (XTC, MDMA, bickies), cocaine or heroin?	☐	☐	☐	☐	☐	☐	☐

The following questions ask about your physical activity

188. In a usual week, do you do any ORGANISED sport or games at school, before or after school, or on the weekend?

Organised sports and games are ones in which you compete, have training or coaching sessions, and which adults may organise. They include activities like school P.E. or Sport, playing on a cricket or netball team, gymnastics or dance classes, swimming squads, or classes at a gym or fitness centre.

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

⬜ No **[skip to question 190]**

⬜ Yes **[continue to question 189]**

189.   Please think about a normal week and enter in the table below:

- the sports or games you usually do (including training) *P.E. and School Sport have already been filled in for you*

- how many times per week you usually do them, and

- the usual amount of time you spend doing them

	Name of sport or game	How many **times per week** do you do this sport or game?	On average **how long** do you play this sport or game **each time** you do it? (in minutes)
P.E.			
School Sport			
Sport or game 1			
Sport or game 2			
Sport or game 3			
Sport or game 4			
Sport or game 5			

190.   In a usual week, do you do any NON-ORGANISED physical activities at school, before or after school, or on the weekend?*

Non-organised physical activities are ones that are not usually supervised by adults and do not usually involve training or competition. It includes things like skateboarding, surfing, riding a bike, walking or cycling to and from school, walking the dog, active chores or jobs you do at home or work, or casually getting together with some friends to play a game or sport after school or during recess/lunchtime.

⬜ No **[skip to question 192]**

⬜ Yes **[continue to question 191]**

191.   Please think about a normal week and enter in the table below:

- Activities that you usually do,

- How many times each week you usually do them, and

- The usual amount of time you spend doing them

	Name of sport or game	How many **times per week** do you do this sport or game?	On average **how long** do you play this sport or game **each time** you do it? (in minutes)
Sport or game 1			
Sport or game 2			

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

Sport or game 3			
Sport or game 4			
Sport or game 5			
Sport or game 6			

These next questions ask about what you eat each day

192.   How many serves of vegetables do you usually eat each day?
One serve of vegetables is equal to one medium potato or 1/2 cup of cooked vegetables or 1 cup of salad vegetables. It does not include potato crisps or chips.

☐ Less than 1 serve

☐ 1 serve

☐ 2 serves

☐ 3 serves

☐ 4 serves

☐ 5 serves

☐ 6 serves or more

☐ I don't eat vegetables

193.   How many serves of fruit do you usually eat each day?
One serve of fruit is equal to 1 medium sized piece of fruit (e.g. apple or banana), 2 pieces of smaller fruit (e.g. kiwi fruit or apricots) or 1 cup of diced pieces/canned fruit or 4 pieces of dried fruit.

☐ Less than 1 serve

☐ 1 serve

☐ 2 serves

☐ 3 serves

☐ 4 serves

☐ 5 serves

☐ 6 serves or more

☐ I don't eat fruit

Great you have finished the survey. ☺

Please raise your hand and a research staff member will collect your survey and ensure your answers are collected and kept private.

If anything in this survey is concerning you or has upset you in any way, please speak about it with your parents, teachers, school counsellor, doctor or call Kids Helpline on 1800 55 1800.

Appendix 5.2: School Environment Survey A: Aboriginal specific questions - AEO/ AEW / Aboriginal Education Co-ordinator

Survey A: Aboriginal specific questions - AEO/ AEW / Aboriginal Education Co-ordinator

HEALTHY SCHOOLS HEALTHY FUTURES (HSHF) SCHOOL ENVIRONMENT SURVEY (SES) 2014

Instruction to interviewer: Please see boxes for structured interview script.

Introduction: As part of the Healthy Schools Healthy Futures project we are conducting interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience.

It is expected that the interview for an AEO/AEW/Aboriginal Education Coordinator will take approximately 30 minutes.

For the purpose of this survey please use the definition of resilience on the information sheet emailed to you and refer back to it when answering the questions and thinking about how resilience skills may have been taught. Do you have that information sheet with you? (**Interviewer**: please resend information sheet if necessary).

Resilience is defined as the ability to bounce back from a negative event or experience by employing individual traits (internal factors) and wider social, community, and environmental supports (external factors). Internal resilience factors include self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, communication and cooperation. External factors include meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers.

Do you have any questions about this definition before we begin?

Some survey questions may refer to 'whole of school' in which case we mean covers all Years 7-10.

HEALTHY SCHOOLS, *HEALTHY FUTURES*

R E S I L I E N C E - I N - S C H O O L S

PART D: Aboriginal Specific Questions

CURRICULUM, TEACHING AND LEARNING DOMAIN QUESTIONS

1. **Outside the Classroom (not taught in curriculum): For Aboriginal and/or Torres Strait Islander Students**

Respondent: Aboriginal Education Co-ordinator or nominee   **Other respondent:**_____

This question refers to the explicit development of resilience with Aboriginal students outside of subject content, such as year days, welfare days, school excursions and student workshops.

[Interviewer note: please explain each Year group will be asked about separately and record the answer to each question in the table below**]**

Note interviewer to clarify: For this question we are asking what programs are offered to Aboriginal and/or Torres Strait Islander students additional to any programs offered as whole school or whole year programs Aboriginal students may have participated in during 2014.

YEAR 7:

1a. Have any school activities that explicitly develop resilience been delivered to Aboriginal students in Year 7? (If no, go to next Year group)

1a1. If yes, were any of the following programs delivered to Year 7, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1a2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 7 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 8:

1b. Have any school activities that explicitly develop resilience been delivered to Aboriginal students in Year 8? (If no, go to next Year group)

1b1. If yes, were any of the following programs delivered to Year 8, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1b2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 8 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 9:

1c. Have any school activities that explicitly develop resilience been delivered to Aboriginal students in Year 9? (If no, go to next Year group)

1c1. If yes, were any of the following programs delivered to Year 9, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1c2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 9 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 10:

1d. Have any school activities that explicitly develop resilience been delivered to Aboriginal students in Year 10? (If no, go to next section)

1d1. If yes, were any of the following programs delivered to Year 10, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1d2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 10 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

1a- 1d:	YEAR 7		YEAR 8		YEAR 9		YEAR 10	
	Please tick one: ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know	
1a1-1d1:	**Hours:………………**		**Hours:………………**		**Hours:………………**		**Hours:………………**	
1a2-1d2:	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**
Aboriginal specific programs:								
Sistaspeak								
Brospeak								
Clontarf								
Feeling Deadly not Shame								
Yarning Circles								
Cultural camps/excursions								
Mainstream programs:								
Seasons for Growth								
Rock and Water								
SenseAbility								
MindMatters								
Bounce Back								
Resilience Doughnut								
Resourceful Adolescent Program (RAP)								
(Interviewer please prompt): Were any other either commercially available or school developed programs implemented? (List below)								

	YEAR 7		YEAR 8		YEAR 9		YEAR 10	
1a- 1d:	**Please tick one:** ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know		**Please tick one:** ☐Yes ☐No ☐Don't know	
1a1-1d1:	**Hours:……………….**		**Hours:……………….**		**Hours:……………….**		**Hours:……………….**	
1a2-1d2:	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**

ETHOS AND ENVIRONMENT DOMAIN QUESTIONS

2. Peer Support, Empowerment and Leadership

This section asks about any student peer support, empowerment or leadership programs you may have in place at your school.

2b. Which of the following peer support, empowerment and leadership programs did Aboriginal students participate in during 2014 (please tick)?

For each I will ask you if the program was offered to all Aboriginal students or selected Aboriginal students.

Interviewer Note:
- **Please read out the list of options.**
- **If the respondent asks for clarification on what is meant by all or selected students:** 'All' refers to programs that are available for all students in that Grade, whereas 'Selected' refers to programs that are only available to selected students in that Grade.)

Programs	Program in place		Year 7		Year 8		Year 9		Year 10	
	Yes	No	All	Selected	All	Selected	All	Selected	All	Selected
Peer support										
Peer mediation										
Peer tutoring										
Year 6-7 transition										
Student ambassadors working with feeder Primary Schools										
Preparation for senior years										
Student leadership training										
SRC										
Buddying or mentoring program										
Junior AECG										
Clontarf										
Any program in which students were active participants in all levels of planning and decision-making (e.g. participating in the development of an anti-bullying policy)										

Programs	Program in place		Year 7		Year 8		Year 9		Year 10	
	Yes	No	All	Selected	All	Selected	All	Selected	All	Selected
Any program that involves school-community mentoring (e.g. opportunities for business leaders to mentor students)										
Interviewer: Did you have any others in place not listed so far? (please list below):										

3. Cultural Awareness

The next section asks about strategies that you may have in place to address cultural awareness within your school.

3a. Has your school undertaken the Principals Australia's Dare to Lead Collegial Snapshot?

☐ Yes   ☐ No   ☐ Unsure

3b. If yes, in what year was it undertaken? _____

3c. Has your school implemented a whole school program that aimed to increase the cultural awareness of non-Aboriginal staff and/or students during 2014?

This could include initiatives for students such as cultural workshops, assembly addresses or cultural performances. It could also include staff professional development, engagement with AECG, or active participation in Connecting to Country.

Yes   ☐ (Continue to 3d)   **No**   ☐ (Skip to Q4)

3d. If yes, please list the programs:

☐ ………………………………………………………………..

□ …………………………………………………………..
□ …………………………………………………………..

3e. Which Aboriginal community members or groups were consulted in developing or running the programs?

 Interviewer: Please read the full list of options.

□   AEW/ AEO in school
□   Other Aboriginal school staff
□   Local AECG
□   Lands Council
□   AMS
□   Aboriginal Youth Service

Any others that I haven't listed so far? (please list below):

□   …………………………………………………………..
□   …………………………………………………………..
□   …………………………………………………………..

PARTNERSHIPS AND SERVICES DOMAIN QUESTIONS

4. Partnerships with Aboriginal and/or Torres Strait Islander Organisations

4a) The next question asks about promotion of local Aboriginal and/or Torres Strait Islander organisations/groups/clubs/health and community services to raise awareness

Which of the following services has your school made Aboriginal students aware of?

Interviewer: Please read out full list of services.

- ☐ Local AECG
- ☐ Local Aboriginal Land Council
- ☐ Aboriginal Medical Service
- ☐ Child and Adolescent Mental Health Services
- ☐ Aboriginal Youth Services
- ☐ Aboriginal Health
- ☐ Aboriginal mental health
- ☐ Aboriginal employment service
- ☐ Elders Group
- ☐ Aboriginal men's groups
- ☐ Aboriginal women's groups
- ☐ Clontarf
- ☐ Kids Helpline
- ☐ Sexual Health Clinic
- ☐ Community Health
- ☐ Medicare Local
- ☐ Adolescent Family Counsellor
- ☐ Headspace
- ☐ Neighbourhood centre
- ☐ PCYC
- ☐ Joblink

☐   Tafe

**Can you think of any others not listed here?
(please list below):**

☐   ……………………………………………

☐   ……………………………………………

☐   ……………………………………………

The next question asks about active partnerships that your school has in place with local Aboriginal community organisations, groups, or clubs (i.e. NOT informal or one-off school-community linkages.

For this question we are just interested in active partnerships with local Aboriginal community organisations, groups and clubs, not health services.

4b. Does your school have active partnerships in place with local Aboriginal community organisations, groups, or clubs that

support Aboriginal parents/carers, staff and students within your school community?

☐ Yes (go to 10c)   ☐ No (go to 10d)

4c. If yes, can you please name up to 5 partnerships you consider to be most important to your students. For each of them I'm

going to ask you about the characteristics of the partnership.

Interviewer: What is the first partnership you would like to list? For this partnership would you say yes or no to the following

characteristics being part of that partnership (repeat for all 5 partnerships).

Partner	Characteristics of partnership
1.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership

	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
	☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
2.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs through local consultation
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
	☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
3.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate

	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
4.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected

	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
5.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building

The next question asks about active partnerships that your school has in place with Aboriginal health and community organisations (i.e. NOT informal or one-off school-community linkages)

4d. Does your school have active partnerships in place with Aboriginal health and community organisations that support

Aboriginal parents/carers, staff and students within your school community?

☐ Yes (go to 4e)   ☐ No (skip 4e)

4e. If yes, can you please name up to 5 partnerships you consider to be most important to your students. For each of them I'm going to ask you about the characteristics of the partnership

Interviewer: What is the first partnership you would like to name? For this partnership would you say yes or no to the following characteristics being part of that partnership (repeat for all 5 partnerships).

Partner	Characteristics of partnership
1.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs through local consultation
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected

	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
2.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
3.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff

	☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way ☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
4.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs through local consultation ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way

	☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building
5.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs through local consultation
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
	☐ Has the service been introduced to Aboriginal school staff who can assist with communication and relationship building

5. Strategies for Aboriginal Parents/Carers

5a. In addition to general strategies to increase parental engagement, what other strategies has your school used in 2014 to engage parents/carers of Aboriginal and/or Torres Strait Islander students specifically? Interviewer: Please read out full list of responses.

☐ Dedicated section in the school newsletter updating parents/carers on progress in Aboriginal Education

☐ Dedicated section of the school website for initiatives in Aboriginal Education

☐ Parents/carers and Elders invited to be panel members for mock interviews and portfolio presentations

☐ Invitation extended to Elders, parents/carers and community figures to attend awards ceremonies, showcase events and other special or significant occasions

☐ Opportunities provided specifically for parents/ carers of Aboriginal students to meet teachers e.g. BBQ

☐ Alternative meeting locations provided off school grounds

☐ Rooms provided specifically for meetings with Aboriginal parents/carers

☐ Aboriginal Education Team open for parents/ carers to attend or become members

☐ Parent/ carer participation in Personal Learning Plan development

Any others not listed? (please list below):

☐ ………………………………

☐ …………………………………….

☐ ……………………………………..

Acceptability Question – Control schools

6. How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

7. Do you have any other comments regarding the HSHF program? (open)

………

………

Acceptability Questions – <u>INTERVENTION SCHOOLS ONLY</u>

8. How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

9. How engaged was your school was with the HSHF program in 2014?

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Unsure

10. Do you have any other comments regarding the HSHF program? (open)

………

………

Appendix 5.3: School Environment Survey B: Deputy Principal

Survey B: Deputy Principal

HEALTHY SCHOOLS HEALTHY FUTURES (HSHF) SCHOOL ENVIRONMENT SURVEY (SES) 2014

Instruction to interviewer: Please see boxes for structured interview script.

Introduction: As part of the Healthy Schools Healthy Futures project we are conducting interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience.

It is expected that the interview for a Deputy Principal will take approximately 25 minutes.

For the purpose of this survey please use the definition of resilience on the information sheet emailed to you and refer back to it when answering the questions. Do you have that information sheet with you? (**Interviewer**: please resend information sheet if necessary).

Resilience is defined as the ability to bounce back from a negative event or experience by employing individual traits (internal factors) and wider social, community, and environmental supports (external factors). Internal resilience factors include self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, communication and cooperation. External factors include meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers.

Do you have any questions about this definition before we begin?

Some survey questions may refer to 'whole of school' in which case we mean covers all Years 7-10.

PART B: ETHOS AND ENVIRONMENT DOMAIN QUESTIONS

This section asks questions about the programs or strategies your school has in place that may have had an impact on the school environment, for example recognition or anti-bullying programs.

1. **Rewards and Recognition Program**

1a. In what areas did your school formally recognise student achievement across the whole school in 2014 (whole school could be Year 7-10)?

For example 2 areas for reward and recognition may be behaviour and attendance.

As you list each I am going to ask you if the reward system was developed with student involvement and if any award recipients were nominated by students?

(**Note to interviewer:** tick all that apply and read out any options the interviewee doesn't list)

Rewards and Recognition Programs:	Yes	No	Was it developed with student involvement?		Were award recipients nominated by students?	
			YES	NO	YES	NO
Behaviour						
Attendance						
Citizenship						
Academic						
Sporting						
Leadership						
Consistent Effort						
Community Service						
Resilience Skills						
Interviewer: Have you implemented any others that I haven't listed? (please list below):						

1b. In which of the following ways has your school communicated student achievement to parents/carers in 2014?

Interviewer: Please read out list of options.

☐ Awards for student to take home
☐ Newsletter
☐ Website
☐ Facebook
☐ Parent/Carer phone call
☐ Letter home/postcard home

Interviewer: Are there any others ways that I haven't listed?

☐ ……………………………………………………………………..
☐ ……………………………………………………………………..
☐ ……………………………………………………………………..
☐ ……………………………………………………………………..
☐ ……………………………………………………………………..

2. Anti-bullying Programs

The next questions relate to your anti-bullying policy and strategies you may have in place.

2a. Has your anti-bullying policy been:

- ☐ Updated in the past 3 years; *or is it*
- ☐ Due for update

2b. Which of the following anti-bullying strategies were run across your whole school in 2014 (please tick)?

Interviewer: Please read out the full list of options.

- ☐ Clear school-wide definition of bullying established and communicated to the school community
- ☐ Consistent procedural steps to manage bullying clearly documented and understood by school community
- ☐ Anti-bullying policy developed in collaboration with staff, students and parents/carers
- ☐ Student involvement in devising or implementing anti-bullying rules, initiatives or programs
- ☐ Staff professional development in establishing a safe school environment (e.g. all staff undertake the National Safe Schools Framework professional learning modules)
- ☐ Effective student reporting system in place
- ☐ Reporting system in place that is anonymous
- ☐ Data on bullying prevalence collected regularly
- ☐ Data on bullying prevalence used to develop tailored and targeted programs
- ☐ Lessons on social skills, motives for bullying and effective bystander strategies taught to all students
- ☐ Mentoring and support programs available for students impacted by bullying (e.g. victims or perpetrators)
- ☐ Parent/ carer workshops/information sessions on bullying

Did you have any others in place not listed so far? (please list below):

- ☐ ……………………………………………………
- ☐ ……………………………………………………
- ☐ ……………………………………………………

☐ …………………………………………………….

☐ **None of the above.**

2c. Was a particular program resource used to develop or implement your anti-bullying strategies or programs, for example Bullying No Way?

Yes ☐ (Continue to 2d) No ☐ (Skip 2d)

2d. What resources have been used in 2014?

Interviewer: Allow interviewee to list options before reading others below.

☐ Cyberia
☐ RUOK Day
☐ Bullying No Way
☐ Tackling Violence
☐ RockIT
☐ White Ribbon initiatives
☐ Black Dog Institute
Other (please list below):
☐ …………………………………………………
☐ …………………………………………………
☐ …………………………………………………
☐ …………………………………………………

3. Staff Development/Training in pedagogy for student engagement

> **3a. This question asks about staff professional development or training your staff may have participated in.**
>
> **Have any of your staff participated in professional development or training that has focused specifically on enhancing student engagement in 2014 (please tick)?**
>
> **(Interviewer note:** Attendance at training can be a presentation/training to all/some staff by a staff member, OR a visiting professional, OR staff going offsite to attend).
>
> Please read out the full list of options.
>
> **For each I will ask whether all or only some staff completed the training.**

Training	Attended by		
	No staff	**Some staff**	**All staff**
Creating a safe and supportive learning environment			
Providing effective and constructive feedback			
Student-centered learning			
Positive behaviour management (e.g. PBL)			
Building positive relationships			
Technology in curriculum design and learning			
Quality Teaching			
Student empowerment			
Assessment as part of the learning process			
Supporting learners with specific needs			
Training specifically for Aboriginal students around engagement.			
Aboriginal perspectives embedded in the curriculum through local consultation			
Explicit instruction in the skills that develop resilience.			
Feedback on teaching from colleagues.			
Any others that I haven't listed so far? (please list below):			

4. Staff Mental Health and Well-being

This section asks about mental health and wellbeing training and initiatives specifically for staff.

4a. Have your staff participated in staff mental health and wellbeing training during 2014?

Yes   ☐   (go to 4b)   No   ☐   (go to 4c)

4b. Did your staff participate in any of the following mental health and wellbeing training programs?

Interviewer: If respondent says yes please read out the list of options and ask if attended by all school staff or only some school staff.

Training	Attended by		
	No staff	**Some staff**	**All staff**
Staff Matters			
Mental Health First Aid (MHFA)			
WorkON – Work place health and wellbeing course			
Expert presentation on maintaining or improving staff mental health and wellbeing e.g. Hunter Institute of Mental Health			
Any others not listed? (please list below):			

4c. Did your school implement initiatives to support staff mental health and well-being in 2014, for example staff morning tea or lunch at school, or GOTCHA or other forms of tangible recognition for staff?

Interviewer: allow interviewee to provide responses first before reading out any of the below options that remain not ticked.

☐   Health promotion programs in place to encourage positive health outcomes
☐   Opportunities created for staff to voice their response to change in the workplace

- ☐ Opportunities for leadership
- ☐ Health and wellbeing policy for staff in place
- ☐ Health and wellbeing materials visible in staff areas e.g. Employee Assistance Program (EAP) access details visible
- ☐ Staff newsletter that endorses health and wellbeing
- ☐ Staff morning tea/lunch at school
- ☐ Staff functions outside of school
- ☐ Staff mentoring in place
- ☐ GOTCHA or other forms of tangible recognition for staff
- ☐ Random acts of kindness for staff or similar initiatives that foster a positive work environment
- ☐ Recognition of staff contribution and achievement, either verbally or tangibly

Did you implement any other initiatives that were not listed here? please list below):

- ☐ ……………………………………
- ☐ ……………………………………
- ☐ ……………………………………
- ☐ ……………………………………

5. **Parents/Carers provided information regarding student resilience**

This section asks about whether your school has provided information to parents/carers regarding student resilience

5a. During 2014 has information about enhancing student resilience (e.g. self-efficacy, problem-solving skills, goals and aspiration, and peer caring relationships) been provided to parents/carers?

☐ Yes (got to 12b)   ☐ No (skip 12 b and 12 c)

5b. During 2014, how often was information about student resilience provided to parents/carers?

☐ Once   ☐ Twice   ☐ Once a term   ☐ Twice a term   ☐ More frequently (e.g. fortnightly/weekly)

5c. How has information about student resilience been provided to parents/carers, for example a newsletter or parent dinner?:

Interviewer: allow interviewee to provide responses first before reading out any of the below options that remain not ticked.

- ☐ School newsletter
- ☐ School website
- ☐ School Facebook page
- ☐ School phone App
- ☐ Schools events e.g. assembles, presentations, school concerts, significant occasions parents/carers are invited to attend
- ☐ P & C meetings
- ☐ Parent/carer forums
- ☐ Parent/carer information sessions
- ☐ Parent/carer dinners

Are there any other ways I haven't listed? (please list below):

- ☐ ………………………………………………….
- ☐ ………………………………………………….
- ☐ ………………………………………………….
- ☐ ………………………………………………….
- ☐ ………………………………………………….

Acceptability Question – Control schools

6.	**How well does your school embed student resilience development in current school policy and practice?**

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

7.	**Do you have any other comments regarding the HSHF program? (open)**

……

……

Acceptability Questions – <u>INTERVENTION SCHOOLS ONLY</u>

8.	**How well does your school embed student resilience development in current school policy and practice?**

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

9.	**How engaged was your school with the HSHF program in 2014?**

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Unsure

10.	**How useful were the following implementation strategies in supporting your school's adoption of the HSHF program? (the options are not at all, somewhat, moderately, very, didn't occur, not aware of this occurring)**

Interviewer Note: In the event that school staff comment that they are not sure how to answer as not sure if things were specifically for HSHF- (e.g. mental health staff training could have occurred, but not sure if part of HSHF) please ask the staff member to consider it when answering and include it anyway.

If a school staff member has comments about why strategies were or were not useful, or varied over the program, please note under additional comment item (question 11 below).

a.   HSHF School project officer

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

b.   Dedicated school staff member as the key HSHF liaison

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

c.   Dedicated HSHF school core team or HSHF led by existing school team (e.g. welfare)

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

d.   Structured planning process to identify school specific initiatives (Interviewer: This could include Healthy Schools, Healthy futures (HSHF) workshops or school action plans)

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

e.   Funding for teacher release or general resilience initiative costs

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

f.   Funding for Aboriginal specific resilience initiatives

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

g.   Teacher training in in student engagement

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

h.   Teacher adolescent mental well-being/resilience training

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

i.   Staff training for staff's own mental health and well-being

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

j.   HSHF implementation monitoring and feedback to the school (Interviewer: This could include termly Healthy Schools, Healthy Futures (HSHF) progress reports)

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this occurring

11.   Do you have any other comments regarding the HSHF program? (open)

………

………

Appendix 5.4: School Environment Survey C: Head Teacher (HT) Welfare

Survey C: Head Teacher (HT) Welfare

HEALTHY SCHOOLS HEALTHY FUTURES (HSHF) SCHOOL ENVIRONMENT SURVEY (SES) 2014

Instruction to interviewer: Please see boxes for structured interview script.

Introduction: As part of the Healthy Schools Healthy Futures project we are conducting interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience.

It is expected that this interview will take approximately 35 minutes.

For the purpose of this survey please use the definition of resilience on the information sheet emailed to you and refer back to it when answering the questions and thinking about how resilience skills may have been taught inside and outside the classroom. Do you have that information sheet with you? (**Interviewer**: please resend information sheet if necessary).

Resilience is defined as the ability to bounce back from a negative event or experience by employing individual traits (internal factors) and wider social, community, and environmental supports (external factors). Internal resilience factors include self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, communication and cooperation. External factors include meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers.

Do you have any questions about this definition before we begin?

Some survey questions may refer to 'whole of school' in which case we mean covers all Years 7-10.

1. Resilience outside the Classroom   **Respondent:** HT Welfare

The next section refers to the explicit development of resilience outside of subject content, such as year days, welfare days, school excursions or student workshops. Each Year group will be asked about separately.

[Interviewer note: please record the answer to each question in the table below**]**

YEAR 7:

1a. Have any school activities that explicitly develop resilience been delivered at a whole-year level to all of Year 7? (If no, go to next Year group)

1a1. If yes, were any of the following programs delivered to Year 7, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1a2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 7 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 8:

1b. Have any school activities that explicitly develop resilience been delivered at a whole-year level to all of Year 8? (If no, go to next Year group)

1b1. If yes, were any of the following programs delivered to Year 8, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each**)**

1b2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 8 (**Interviewer:** record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 9:

1c. Have any school activities that explicitly develop resilience been delivered at a whole-year level to all of Year 9? (If no, go to Year group)

1c1. If yes, were any of the following programs delivered to Year 9, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each)

1c2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 9 (Interviewer: record in table below. If unable to estimate please tick 'unable to estimate' in table).

YEAR 10:

1d. Have any school activities that explicitly develop resilience been delivered at a whole-year level to all of Year 10? (If no, go to next section)

1d1. If yes, were any of the following programs delivered to Year 10, and was this to boys, girls or both? (Interviewer: Please read through all programs in the table, if not delivered then do not tick. Tick relevant genders for each)

1d2. With all delivered programs in mind, could you estimate the total number of hours spent explicitly developing resilience in Year 10 (Interviewer: record in table below. If unable to estimate please tick 'unable to estimate' in table).

	YEAR 7		YEAR 8		YEAR 9		YEAR 10	
1a- 1d:	Please tick one: ☐Yes ☐No ☐Don't know		Please tick one: ☐Yes ☐No ☐Don't know		Please tick one: ☐Yes ☐No ☐Don't know		Please tick one: ☐Yes ☐No ☐Don't know	
1a1-1d1:	Hours:………………… ☐ Unable to estimate		Hours:………………… ☐ Unable to estimate		Hours:………………… ☐ Unable to estimate		Hours:………………… ☐ Unable to estimate	
1a2-1d2:	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**
Programs								
Love Bites								

Rock and Water							
SenseAbility							
MindMatters							
Bounce Back							
Resilience Doughnut							
Motivational Media							
Bamboo Theatre							
Resourceful Adolescent Program (RAP)							
(Interviewer please prompt): Were any other either commercially available or school developed programs implemented? (List below)							

Respondent: HT Welfare

> **The next 2 questions ask about explicit instruction in resilience delivered to the whole school, by this we mean Years 7-10.**
>
> **1e. Has any explicit instruction in resilience been delivered at a whole school level for example during DEAR, roll call, LAW or Pastoral Care periods? This instruction can include content from resources such as MindMatters or SenseAbility or school-developed content.**
>
> (**Interviewer:** If unable to estimate please tick 'unable to estimate' in table).

☐ Yes   ☐ No   ☐ Don't know   **If yes*, could you estimate how many hours:*____**   ☐ Unable to estimate

> **1f. Which resources were used within those periods, for example MindMatters or Sensability?**

☐ MindMatters

☐ SenseAbility

☐ Reach Out

☐ Resilience Doughnut

☐ School developed resources

☐ Others (please name):_____

_____

> **The next 2 questions ask about programs delivered to students who have been identified as requiring additional support.**

> **1g. Have any programs that include explicit instruction in skills that develop resilience, been delivered to such groups of students (for example Seasons for Growth or school-developed programs)?**

☐ Yes (ask 1h)   ☐ No (go to Q2)

1h. Which of the following programs were implemented? (Interviewer: Please read list of programs**)**

- ☐ Rock and Water
- ☐ Resourceful Adolescent Program (RAP)
- ☐ Resilience Doughnut
- ☐ Seasons for Growth
- ☐ RAGE
- ☐ SCREAM
- ☐ Plan-it Youth
- ☐ SHINE
- ☐ STRENGTH
- ☐ Girls With A Purpose
- ☐ RUSH mentoring

(Interviewer please prompt): Were any other either commercially available or school developed programs implemented? (List below)

- ☐ …………………………………………………………………..
- ☐ …………………………………………………………………..
- ☐ …………………………………………………………………..
- ☐ …………………………………………………………………..
- ☐ …………………………………………………………………..

2. Peer Support, Empowerment and Leadership

This section asks about any student peer support, empowerment or leadership programs you may have in place at your school.

2a. Which of the following peer support, empowerment and leadership programs did groups of students participate in during 2014 (please tick)?

For each program you say was used, I will ask you if the program was offered to each Year group, and whether it was offered to all students in the Year or only selected students.

Interviewer Note:
- **Please read out the list of options.**
- **If the respondent asks for clarification on what is meant by all or selected students:** 'All' refers to programs that are available for all students in that Grade, whereas 'Selected' refers to programs that are only available to selected students in that Grade.)

Programs	Program in place		Year 7		Year 8		Year 9		Year 10	
	Yes	No	All	Selected	All	Selected	All	Selected	All	Selected
Peer support										
Peer mediation										
Peer tutoring										
Year 6-7 transition										
Student ambassadors working with feeder Primary Schools										
Preparation for senior years										
Student leadership training										
SRC										
Buddying or mentoring program										
Junior AECG										
Clontarf										
Any program in which students were active participants in all levels of planning and decision-making (e.g. participating in the development of an anti-bullying policy)										

Programs	Program in place		Year 7		Year 8		Year 9		Year 10	
	Yes	No	All	Selected	All	Selected	All	Selected	All	Selected
Any program that involves school-community mentoring (e.g. opportunities for business leaders to mentor students)										
Interviewer: Did you have any others in place not listed so far? (please list below):										

PART C: PARTNERSHIPS AND SERVICES DOMAIN QUESTIONS

This question asks about whether your school has tried to increase student awareness of local organisations and services, for example community organisations, groups, clubs, health and community services. This could be in the school newsletter, website, school notice boards, school social media websites.

3a. Charity organisations

Has your school made students aware of charity organisations, for example Red Cross and Rotary? ☐ **Yes** ☐ **No**

Interviewer: If yes which charities?

- ☐ Red cross
- ☐ Smith Family
- ☐ Rotary Club
- ☐ Lions Club
- ☐ Samaritians
- ☐ St Vincent de Paul

Any others? (please list below):

- ☐ ……………………………………………
- ☐ ……………………………………………
- ☐ ……………………………………………
- ☐ ……………………………………………

3b. Sporting/cultural Groups:

Has your school made students aware of sporting or cultural groups, for example Surf Life Saving? ☐ **Yes** ☐ **No**

Interviewer: If yes which types?

- ☐ Local sports clubs e.g. rugby league, netball

- ☐ Dancing/cultural group
- ☐ Surf Life Saving
- ☐ Scouts/Girl guides etc.
- ☐ Duke of Edinburgh

Any others? (please list below):

- ☐ …………………………………………
- ☐ …………………………………………
- ☐ …………………………………………
- ☐ …………………………………………

3c. Religious Groups

Has your school made students aware of religious groups, for example the Salvation Army?   ☐ **Yes**   ☐ **No**

Interviewer: If yes which groups?

- ☐ Anglicare
- ☐ Centacare
- ☐ Salvation Army
- ☐ Youth with a mission

Others?(please list below):

- ☐ …………………………………………
- ☐ …………………………………………
- ☐ …………………………………………
- ☐ …………………………………………

3d. Health and community services

Has your school made students aware of health and community services, for example Kids help line and Headspace? ☐ **Yes** ☐ **No**

Interviewer: If yes which services?

- ☐ Child and Adolescent Mental Health Services (CAMHS)
- ☐ Local Youth Services
- ☐ Kids Helpline
- ☐ Sexual Health Clinic
- ☐ Community Health
- ☐ Medicare Local
- ☐ Adolescent Family Counsellor
- ☐ Headspace
- ☐ Beyond Blue
- ☐ Life without Barriers
- ☐ PCYC
- ☐ TAFE
- ☐ Joblink
- ☐ Neighbourhood centre

Others? (please list below):

- ☐ ………………………………………………
- ☐ ………………………………………………
- ☐ ………………………………………………
- ☐ ………………………………………………

3e. Aboriginal Organisations

Has your school made students aware of Aboriginal organisations, for example the Local Aboriginal Land Council or Aboriginal Medical Service?
☐ **Yes** ☐ **No**

Interviewer: If yes which Aboriginal Organisations?

- ☐ AECG
- ☐ Local Aboriginal Land Council
- ☐ Clontarf
- ☐ Aboriginal Medical Service
- ☐ Aboriginal Health
- ☐ Aboriginal youth organisations
- ☐ Aboriginal employment service
- ☐ Aboriginal Mental Health
- ☐ Elders groups
- ☐ Aboriginal men's groups
- ☐ Aboriginal women's groups

Others? (list below)

- ☐ ………………………………………
- ☐ ………………………………………
- ☐ ………………………………………
- ☐ ………………………………………

The next question asks about active partnerships that your school has in place with local community organisations, groups, or clubs. Active partnerships are those that are ongoing and formal, (i.e. NOT informal or one-off school-community linkages).

For this question we are just interested in active partnerships with local community organisations, groups and clubs, not health services.

3f. Does your school have active partnerships in place with local community organisations, groups or clubs that support

different groups within your school community?

☐ Yes (go to 3g)   ☐ No (go to 3h)

3g. If yes, can you please name up to 5 partnerships you consider to be most important to your students. As you name each of them I'm going to ask you yes or no about some characteristics of the partnership.

Interviewer: What is the first partnership you would like to name? For this partnership would you say yes or no to the following characteristics being part of that partnership (repeat for all 5 partnerships).

Partner	Characteristics of partnership
1.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with the aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
2.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff

	☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
3.	☐ Has a formal agreement been established on services to be provided ☐ Is the partnership consistent with aims of the School Plan ☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate ☐ Is information shared between the school staff member co-ordinating the partnership and other school staff ☐ Is the role of the school and the role of the service clearly defined within the partnership ☐ Is the service specifically tailored to your school community needs ☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources ☐ Is sufficient resource provided e.g. budget allocated to support the partnership ☐ Are systems established to ensure continuation of the partnership if there is a change in leadership ☐ Is the partnership is a multi-year endeavour ☐ Is student and family confidentiality protected and privacy respected ☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way

4.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
5.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership

	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way

The next question asks about active partnerships that your school has in place with *health and community organisations* that are NOT informal or one-off school-community linkages.

3h. Does your school have active partnerships in place with health and community organisations that support different groups within your school community?

☐ Yes (go to 3i)   ☐ No (skip 3i)

3i. If yes, can you please name up to 5 partnerships you consider to be most important to your students. As you name each of them I'm going to ask you yes or no about some characteristics of the partnership.

Interviewer: What is the first partnership you would like to name? For this partnership would you say yes or no to the following characteristics being part of that partnership (repeat for all 5 partnerships).

Partner	Characteristics of partnership
1.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff

	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
2.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way

3.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
4.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership

	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way
5.	☐ Has a formal agreement been established on services to be provided
	☐ Is the partnership consistent with aims of the School Plan
	☐ Are regular meetings held to review and evaluate the working relationships to ensure it remains effective and appropriate
	☐ Is information shared between the school staff member co-ordinating the partnership and other school staff
	☐ Is the role of the school and the role of the service clearly defined within the partnership
	☐ Is the service specifically tailored to your school community needs
	☐ Does the school supports the delivery of partner programs through assisting with coordinating space, time and resources
	☐ Is sufficient resource provided e.g. budget allocated to support the partnership
	☐ Are systems established to ensure continuation of the partnership if there is a change in leadership
	☐ Is the partnership is a multi-year endeavour
	☐ Is student and family confidentiality protected and privacy respected
	☐ Are systems in place for the school to act upon any issues raised in a prompt, culturally sensitive and respectful way

4. Parental engagement strategies

> **This questions asks about strategies has your school may have implemented in 2014 to engage or involve parents/carers in the school**
>
> **4a. Has your school implemented any strategies regarding positive parent-teacher communication, for example positive postcards or letters sent home?**
>
> **Interviewer:** For questions 4a-4d, please don't read out the list of options – allow interviewee to list options first and use the options provided under each question as prompts if need.

- ☐ None
- ☐ Positive postcards or letters sent home
- ☐ Formal commendation mailed home
- ☐ Positive phone calls
- ☐ Any others? _____

> **4b. Has your school implemented any strategies regarding web-based communication, for example a school or P & C Facebook Page?**

- ☐ None
- ☐ School or P&C Facebook page
- ☐ School smart phone App – with notification of school messages and events
- ☐ Parent/carer portal on website (an interactive forum, resilience-specific information, promotion of school-based and external parent/carer education workshops and seminars, relevant community organisations and services)
- ☐ SMS notification system for absent students

☐ Any others? _____

4c. Has your school implemented any workshops or events, for example parent and carer forum with invited guest speakers?

☐ None

☐ Parent/carer information sessions on 'hot topics' or current school matters such as cyber safety

☐ Parent/carer forums with invited guest speakers

☐ Annual parent/carer events at school such as Mother's Day/Father's Day breakfast, Volunteers breakfast

☐ Whole school community events such as Christmas concerts, family trivia nights and fundraising events

☐ Invitations extended to Elders, parents/carers and community figures to attend awards ceremonies, showcase events and other special or significant occasions

☐ Parent/carer volunteer programs and opportunities, such as tutor programs, working bees, gardening group

☐ Informal social and special events for parents/carers to meet teachers held on school grounds

☐ Parent/carer workshops at school, on topics such as parenting skills

☐ Family learning programs

☐ Any others? _____

4d. And finally, has your school implemented any strategies to involve parents/carers in school plans, processes and reform, for example parent and carer participation in policy development?

☐ None

☐ Parent/carer school evaluation surveys and parent/carer feedback on school evaluation tools

☐ Parent/carer participation in policy development

☐ Parent/carer participation in Personal Learning Plan development

☐ Parents/carers and Elders invited to be panel members for mock interviews and portfolio presentations

☐   Parental engagement embedded in school plans

☐   Any others? _____

Acceptability Question –Control schools

5.   How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

6.   Do you have any other comments regarding the HSHF program? (open)

……

……

Acceptability Questions – <u>INTERVENTION SCHOOLS ONLY</u>

7.   How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

8.   How engaged was your school with the HSHF program in 2014?

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Unsure

9. How useful were the following implementation strategies in supporting your school's adoption of the HSHF program? (the options are not at all, somewhat, moderately, very, didn't occur, not aware of this occurring)

Interviewer Note: In the event that school staff comment that they are not sure how to answer as not sure if things were specifically for HSHF (e.g. mental health staff training could have occurred, but not sure if part of HSHF) please ask the staff member to consider it when answering and include it anyway.

If a school staff member has comments about why strategies were or were not useful, or varied over the program, please note under additional comment item (question 10 below).

a. HSHF School project officer

☐ Not at all occurring ☐ Somewhat ☐ Moderately ☐ Very ☐ Didn't occur ☐ Not aware of this

b. Dedicated school staff member as the key HSHF liaison

☐ Not at all occurring ☐ Somewhat ☐ Moderately ☐ Very ☐ Didn't occur ☐ Not aware of this

c. Dedicated HSHF school core team or HSHF led by existing school team (e.g. welfare)

☐ Not at all occurring ☐ Somewhat ☐ Moderately ☐ Very ☐ Didn't occur ☐ Not aware of this

d. Structured planning process to identify school specific initiatives (Interviewer: This could include Healthy Schools, Healthy futures workshops or school action plans)

☐ Not at all occurring ☐ Somewhat ☐ Moderately ☐ Very ☐ Didn't occur ☐ Not aware of this

e. Funding for teacher release or general resilience initiative costs

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

f.   Funding for Aboriginal specific resilience initiatives

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

g.   Teacher training in in student engagement

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

h.   Teacher adolescent mental well-being/resilience training

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

i.   Staff training for staff's own mental health and well-being

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

j.   HSHF implementation monitoring and feedback to the school (Interviewer: This could include termly Healthy Schools, Healthy Futures (HSHF) progress reports)

☐ Not at all occurring   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Didn't occur   ☐ Not aware of this

10. Do you have any other comments regarding the HSHF program? (open)

………

Appendix 5.5: School Environment Survey D: Head Teacher of Key Learning Area (KLA)

Survey D: Head Teacher of Key Learning Area (KLA)

HEALTHY SCHOOLS HEALTHY FUTURES (HSHF) SCHOOL ENVIRONMENT SURVEY (SES) 2014

Instruction to interviewer: Please see boxes for structured interview script.

Introduction: As part of the Healthy Schools Healthy Futures project we are conducting interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience.

It is expected that this interview will take approximately 5 minutes.

For the purpose of this survey please use the definition of resilience on the information sheet emailed to you and refer back to it when answering the questions and thinking about how resilience skills may have been taught. Do you have that information sheet with you? (**Interviewer**: please resend information sheet if necessary).

Resilience is defined as the ability to bounce back from a negative event or experience by employing individual traits (internal factors) and wider social, community, and environmental supports (external factors). Internal resilience factors include self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, communication and cooperation. External factors include meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers.

Do you have any questions about this definition before we begin?

PART A: CURRICULUM TEACHING AND LEARNING

1. Resilience in Curriculum Content

Respondent: HT each KLA   **Other respondent:**_____

1. What KLA do you teach?

KLA: ☐ English   ☐ Math   ☐ PDHPE   ☐ Science   ☐ HSIE   Other:_____

This section asks about explicit instruction in skills that develop resilience within curriculum content. This could include content from resources such as MindMatters or SenseAbility, or school-developed content.
1a. Has any explicit instruction in skills that develop resilience been taught to Year 7 (then 8, 9 and 10) in your key learning area (KLA) this year?

(**Interviewer:** if unable to estimate hours please record can't estimate)

Year 7 (1a1): ☐ Yes   ☐ No   ☐ Don't know   **If yes, could you estimate how many hours:____**   ☐ Can't estimate

Year 8 (1a2): ☐ Yes   ☐ No   ☐ Don't know   **If yes, could you estimate how many hours:____**   ☐ Can't estimate

Year 9 (1a3): ☐ Yes   ☐ No   ☐ Don't know   **If yes, could you estimate how many hours:____**   ☐ Can't estimate

Year 10 (1a4): ☐ Yes   ☐ No   ☐ Don't know   **If yes, could you estimate how many hours:____**   ☐ Can't estimate

1b. Which resources been used to explicitly teach resilience to any year group in your KLA, for example MindMatters?:
Interviewer: Open Q don't read responses out loud – only read out if prompting is needed.

☐   MindMatters

☐   SenseAbility

☐   Reach Out   .

☐ Resilience Doughnut

☐ Bounceback

☐ School developed resources

Others (please
name):_____

_____

Acceptability Question –Control schools

13. How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

14. Do you have any other comments regarding the HSHF program? (open)

………

………

Acceptability Questions – <u>INTERVENTION SCHOOLS ONLY</u>

15. How well does your school embed student resilience development in current school policy and practice?

☐ Not at all   ☐ Somewhat   ☐ Moderately well   ☐ Very well   ☐ Unsure

16. How engaged was your school with the HSHF program in 2014?

☐ Not at all   ☐ Somewhat   ☐ Moderately   ☐ Very   ☐ Unsure

17. Do you have any other comments regarding the HSHF program? (open)

………

………

Appendix 6: Additional materials to support Chapter 6

Appendix 6.1 Healthy Schools, Healthy Futures Program Guide

A detailed implementation guide provided to all schools outlining the intervention planning process along with a matrix of programs and curriculum resources targeting resilience protective factors and recommended to promote mental health in children and adolescents. Noted in Chapter 5 under 'Structure planning process' and in Chapter 6, Table 1, Implementation Support Strategy number 5: Intervention implementation guide that described the intervention, planning process, available resources and programs, tools and templates for intervention implementation.

Healthy Schools Healthy Futures Program Guide

PREFACE

Welcome to the Healthy Schools, Healthy Futures Program Guide.

This Guide has been developed to provide your school with the information and resources required to implement each phase of the Healthy Schools, Healthy Futures Program.

Along with this Guide you will also be supported by a School Project Officer, a Regional School Project Coordinator, annual funding and the Healthy Schools, Healthy Futures Research Team.

This Guide will support schools through the Healthy Schools, Healthy Futures planning including the process of:

- collecting data within the schools;
- identifying the resilience needs to address within the school as well as the existing strengths to capitalise on;
- planning how to address the issues; and
- devising and implementing a plan to increase student resilience.

1   Part 1: Background

WHAT IS HEALTHY SCHOOLS, HEALTHY FUTURES?

The Healthy Schools, Healthy Futures (HSHF) program is a joint research initiative between Hunter New England Population Health and the School of Medicine and Public Health at The University of Newcastle. It is being conducted in NSW Department of Education and Communities and Catholic Schools Office high schools across the Hunter, New England and lower Mid-North Coast regions.

Aims and objectives

The aim of the HSHF research initiative is to examine the effectiveness of resilience interventions in reducing smoking and alcohol consumption in a cohort of adolescents (Years 7-10) attending high schools located in disadvantaged areas. In particular, the HSHF program aims to:

1. Increase the internal and external resilience characteristics of students; and
2. Decrease the uptake of health risk behaviours, including: tobacco, alcohol and marijuana use; poor nutrition; physical inactivity; and unsafe sexual practices (Year 10 students in government schools only).

Brief program description

The HSHF Program is based on previous pilot programs and is supported by funding from the National Health and Medical Research Council, the nib Foundation and Hunter New England Population Health.

The HSHF study is being implemented in 33 high schools (Government and Catholic schools) throughout the Hunter, New England and lower Mid-North Coast areas from 2011 to 2014. Of these schools, 21 schools have been allocated to receive the HSHF Program (intervention schools) and the remaining 12 schools have been allocated to be control schools. Data will be collected from both intervention and control schools.

The HSHF Program aims to build the sustainable capacity of each school to address students' resilience. Briefly, the implementation of the HSHF Program will involve schools implementing strategies in each of the Health Promoting Schools domains (see Figure 2, Page 8). As the needs of each school will likely differ, so will the services available to individual schools, and the strategies identified and implemented within each context.

Ethics and other research approvals

Approval to conduct the HSHF research project has been received from NSW Department of Education and Communities State Research Ethics Approval Process (SERAP), Catholic Schools Office Diocese of Armidale and Maitland-Newcastle, Hunter New England Health Human Research Ethics Committee, the University of Newcastle Human Research Ethics Committee and the Aboriginal Health and Medical Research Council of NSW.

1.1 RESILIENCE AND ADOLESCENT HEALTH RISK BEHAVIOUR

Health risk behaviour prevalence

According to the 2007 report Young Australians: Their Health and Wellbeing, 90% of young people (those aged 12 – 24 years) rated their health as 'excellent' or 'very good' or 'good'. Despite this promising indicator, young people have not enjoyed the same improvement in health status when compared to other sections of the community. One reason for this is that the causes of ill health for most young people are social rather than biological. Young people often engage in risky behaviours such as binge drinking, dangerous driving, smoking and unprotected sex, all of which can lead to disadvantage, disability or death.

The use of alcohol, tobacco and illicit drugs contributes significantly to injury and/or disability in young people. In 2005, an average of 25% of NSW secondary school students reported that they had consumed alcohol in the past seven days, and 8% reported they had smoked a cigarette recently. Even though the prevalence of smoking by young people has decreased since 1984, the prevalence of alcohol use has remained relatively unchanged over the same time period. The proportion of young people aged 12-17 who had used an illicit drug in the previous 12 months dropped from 46% in 1996 to 38% in 2001.

There is a higher prevalence of established risk factors among young Indigenous Australians when compared with other young Australians—young Indigenous Australians are more likely to smoke, to be obese and physically inactive, to have poorer nutrition but with higher rates of substance use. It is important to remember that these higher levels of risky health behaviour sit within a broader social and economic context of disadvantage, and socioeconomic status is an important determinant of the likelihood that individuals and populations are exposed to health risk factors.

Resilience theory

Resilience is the ability of an individual to bounce-back from a negative event or experience. Studies have found that resilience is negatively associated with adolescent risk behaviours (such as alcohol, tobacco and illicit drug use, and unprotected sexual activity). Young people who report higher levels of resilience also report less engagement with risk behaviours.

Research suggests that a range of factors are important for young people to achieve competence, confidence and good health in adulthood. In particular, a range of resilience factors may be critical to positive youth development, protection from engaging in health risk behaviours, and increased engagement at school.

Resilience theory provides a framework to describe the influence of resilience on the healthy development of adolescents. Within this framework, the factors suggested to influence the healthy development of an adolescent fall into two categories, internal and external resilience factors. Internal resilience factors include the personal skills and traits of the young person, and external resilience factors include the environmental influences that provide support for young people when responding to, and making decisions, regarding life events.

Based on past studies that have sought to measure the resilience of young people, 14 internal and external factors have been identified that influence an individual's resilience (see Figure 1, Page 6).
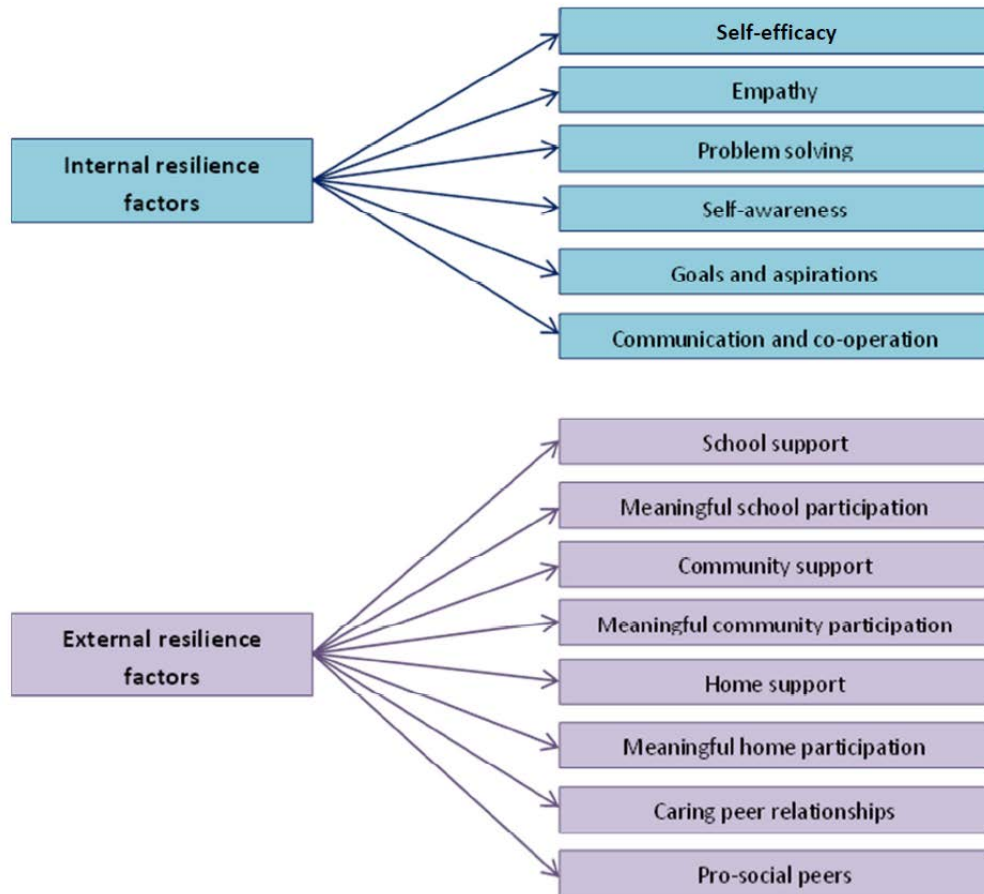
Figure 1. Internal and external resilience factors

Internal resilience factors

1. **Self-efficacy**: the belief in one's own competence, and the feeling one has the power to make a difference. It is related to task mastery, the sense of doing something well, and to having the ability to act and exert one's will. Self-efficacy is a critical component of developing one's identity and sense of self—the major developmental task of the adolescent years.
2. **Empathy**: understanding and caring about another's experiences and feelings. Empathy is considered essential to healthy development and at the root of morality and mutual respect.
3. **Problem solving**: the ability to plan, be resourceful, think critically and reflectively, and to creatively examine multiple perspectives before making a decision or taking action.
4. **Self-awareness**: a hallmark of successful and healthy human development, and includes developing an understanding of how one's thinking influences one's

behaviour, feelings, and moods, as well as an understanding of one's strengths and challenges.

5. **Goals and aspirations**: using one's dreams and plans to focus on the future, or having high expectations and hope for one's self. Goals and aspirations are an expression of the intrinsic motivation that guides human development, and reflect the search for the meaning of human life. Young people who have goals and aspirations develop a sense of deep connectedness.

6. **Communication and cooperation**: having flexibility in relationships, the ability to work effectively with others to exchange information and ideas, and express feelings and needs.

External resilience factors

1. **School support**: the supportive connections between the student and staff within the school. This includes teachers, support staff, or any other adults working within the school.

2. **Meaningful school participation**: student's engagement in meaningful activities within the school. This includes, involving students in relevant, engaging, and interesting activities with opportunities for responsibility and contribution, and is a natural outcome of high expectations.

3. **Community support**: supportive connections between the student and members of their local community. This may include coaches, instructors, program leaders, or other adults within the community with whom the student has regular contact.

4. **Meaningful community participation**: involvement of the student in relevant, engaging and interesting activities with opportunities for responsibility and contribution with the community.

5. **Home support**: supportive connections between the student and adults within their home. Home support includes establishing within the home, fair and clear rules and expectations, empowering discipline, guidance and encouraging their unique strengths and interests.

6. **Meaningful home participation**: students' engagement in meaningful home activities including involvement in relevant, engaging and interesting activities with opportunities for responsibility and contribution.

7. **Caring peer relationships**: how students relate to one another. A positive school environment depends to a great extent on creating caring, empathic student-to-student relationships.

8. **Pro-social peers**: what students' friends do and so separates pro-social or positive peers from their anti-social counterparts.

1.2 A WHOLE OF SCHOOL APPROACH TO INCREASING STUDENT RESILIENCE

Health Promoting Schools approach

The World Health Organisation (1998) defines a health promoting school as 'a school that is constantly strengthening its capacity as a healthy setting for living, learning and working' (see Figure 2).

A World Health Organisation review found that school-based interventions that address the school curriculum, school environment and community were the most likely to achieve a beneficial outcome. The Health Promoting Schools (HPS) framework encapsulates such an approach and is consistent with other review evidence suggesting that future studies include both individual and school-level intervention components for addressing young people's substance use. Such an approach is based on the theory that young people's behaviour is influenced in part by their social environments, including that of the school.

Curriculum, Teaching and Learning
This domain refers to the teaching and learning strategies used in the classroom. Improving 'Curriculum, Teaching and Learning' includes catering for a range of learning styles and individual student needs, improving what is taught and how it is taught, building a positive classroom environment and having access to professional development for teachers.

Partnerships and Services
This domain refers to building links between the school, families, community members and service providers.

Ethos and Environment
This domain refers to providing a safe and supportive learning and social environment, putting welfare and behaviour management strategies in place, and improving the policies, procedures, attitudes and values of the school.

Figure 2. The Health Promoting Schools Framework

How to implement the HSHF program

The HSHF Program is implemented using a structured Planning and Implementation Cycle. This cycle includes collecting data from your school community related to student resilience, identifying priority areas within your school to target student resilience based on the HSHF Program Model, developing a School Action Plan to address the identified resilience strengths and needs, and finally the implementation of your Action Plan. Part 2 of this Program Guide provides more detailed information on how to progress through each of these steps.

Four surveys will be conducted in schools to identify and prioritise resilience issues, as well as to evaluate the success of the HSHF program, which include a Student, Staff, Parent and School Environment Survey.

Program Resources

A number of resources will be available to you each year to help your school plan and implement strategies to increase the resilience of your students.

▪ *School Project Officer (SPO)*
A SPO will be allocated to your school one day a week from 2012 to 2014 to lead and support school staff in the planning, development, and implementation of the HSHF Program.

▪ *Regional School Project Coordinator*
A Regional School Project Coordinator will support you, your school and your SPO to implement the HSHF Program within your existing school system and classroom practices.

▪ *Funding*
All HSHF Program schools will receive $2,000 funding each year of the program (2012-2014). This funding is to be used by your school for staff training, teacher professional development, and teacher release time for teachers involved with the HSHF strategy planning implementation.

▪ *Healthy Schools, Healthy Futures Program Guide (this Guide)*
This Guide contains information, tools and resources to help your school implement the HSHF Program throughout the next three years.

▪ *Healthy Schools, Healthy Futures Research Team*
The HSHF Research Team comprises a Research Chair (Dr Megan Freund), Research Managers (Rebecca Hodder, Dr Libby Campbell, Milly Licata and Chris George), Research Assistants, a statistician and an administration officer. The HSHF research team will support SPOs, the Regional School Project Coordinator and schools in all aspects of implementing the program as well as data collection and analysis.

1.3 PROGRAM GOVERNANCE AND THE ROLE OF STAKEHOLDERS

Governance model

The governance model has been developed to ensure that the HSHF Project is implemented in line with established research objectives and stakeholder policies and strategic direction (see Figure 3). There are two key stakeholders in the HSHF Project: the NSW Department of Education and Communities (DEC) and the Catholic Schools Office (CSO, encompassing both the Maitland Newcastle and Armidale Catholic Schools Diocese).

As well as these groups, a large number of individuals will also be involved in the day to day running of the program within each school community. Many of these individuals (such as School Principals) will provide the essential leadership for the successful implementation of the HSHF program. The roles of the governance groups and individuals are described below.
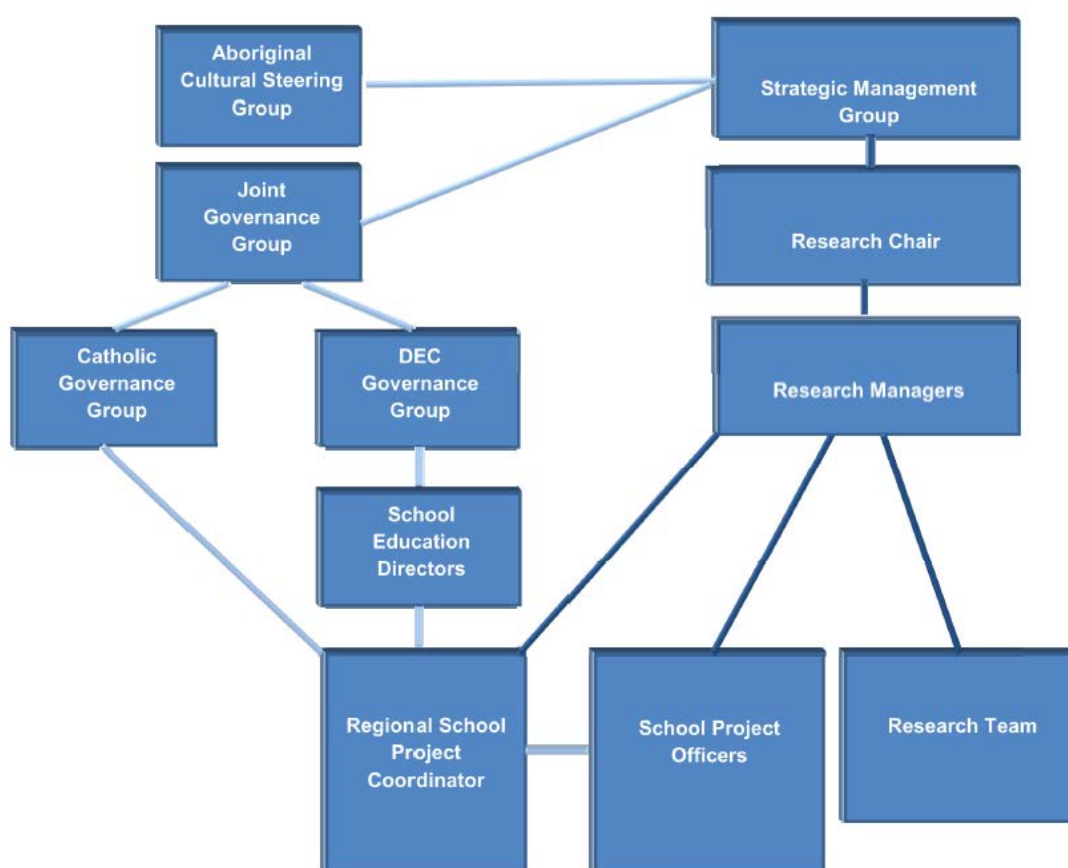
Figure 3. HSHF Governance Model

Roles and responsibilities

HSHF Aboriginal Cultural Steering Group

The role of this group is to provide advice and/or approval regarding the cultural appropriateness of the HSHF program for Aboriginal and Torres Strait Islander people. Membership of this group includes the HSHF Research Executive as well as Aboriginal representatives from the following organisations:

- Regional Aboriginal Education Consultative Groups – President's delegate (Hunter, Manning, North West 1, North West 2)
- NSW DEC – Aboriginal Education Consultant
- CSO – Aboriginal Education Consultant
- Hunter New England Health – Health Promotion Coordinator
- Hunter New England Health Aboriginal Health Unit – Representative
- Aboriginal Medical Service – Representative
- Hunter New England Aboriginal Mental Health Service – Representative
- Hunter New England Health Population Health Unit – Aboriginal Project Officers
- Indigenous Content Specialist
- HSHF Regional School Project Coordinator

HSHF Joint Governance Group

The role of this group is to ensure that HSHF Project is implemented in line with key stakeholder policies and strategic directions. Membership of this group includes the HSHF Research Executive, DEC Governance Group, CSO Governance Group, and the chair of the HSHF Aboriginal Cultural Steering Group.

HSHF CSO Governance Group

To ensure that the HSHF research project is implemented in line with CSO policies and strategic directions, and to consider broad level intervention strategies, membership of this group includes the HSHF Research Executive and representatives from both the Maitland Newcastle and Armidale CSO.

HSHF NSW DEC Governance Group

The role of this group is to ensure that HSHF is implemented in line with DEC policies and strategic directions, and to consider broad level intervention strategies. Membership includes DEC School Education Directors and representatives of the Research Team.

HSHF Regional School Project Coordinator

A Regional School Project Coordinator has been employed through Hunter New England Population Health to support the SPOs to implement the HSHF program in the 21 intervention schools, to support the data collection, and to provide advice, guidance and support to schools and school staff.
Responsibilities include:

- Supporting the SPOs to work within school systems, and to understand school and classroom practices;
- Liaising with principals to facilitate implementation of the HSHF program;
- Supporting development of school intervention strategies e.g. resilience curriculum items;
- Supporting the Research Team in implementing data collection and intervention strategies;
- Participating in risk assessments (as required) that are led by the principal, for each participating school;

- Contributing significantly to communication regarding the HSHF Program to school staff, students and to the wider school community;
- Communicating issues as appropriate to both the Research Managers and relevant School Education Directors;
- Attending School Advisory Group meetings;
- Attending School Core Team meetings to support schools and SPOs as required; and
- Participating in Program Management meetings with the Research Managers and   SPOs.

SPOs

The role of the SPO is to assist each school to implement the HSHF Program. Two of the SPO positions have been filled by Aboriginal employees.

SPOs will receive support from both the HSHF Research Managers and the HSHF Regional Coordinator, to implement the Project within their allocated schools, and will be line managed by the HSHF Regional Coordinator.

Their responsibilities include (SPOs role is described in more detail throughout the Guide):

- Supporting schools to implement all aspects of the HSHF Program as described in the HSHF Program Guide;
- Contributing, under the guidance of the Research Managers, to ensuring the HSHF Program is effective and culturally acceptable, and is delivered in a manner sensitive to the cultural principles of Aboriginal and Torres Strait Islander people;
- Ensuring, under the guidance of the Research Managers, any interaction with Aboriginal and Torres Strait Islander people is culturally appropriate;
- Maintaining membership of and providing secretarial support to School Core Teams;
- Maintaining membership of other relevant groups including any established Working Groups;
- Liaising with each Working Group within the Core Team and assisting as required;
- Supporting schools to schedule and complete the school surveys (Student, Staff, Parent and School Environment). It is the role of the Research Team to collate, analyse and report outcomes of surveys to schools, however SPOs may assist with this activity;
- Facilitating Planning Workshops to support schools in identifying relevant resilience strategies to implement as part of the program;
- Supporting the development of a School Action Plan;
- Supporting schools to implement strategies as documented in the School Action Plan;
- Circulating relevant information to schools and to the youth services sector, regarding supplementary potential funding opportunities; and
- Supporting schools to source external funding for the implementation of school-based resilience initiatives.

HSHF Research Team

The research team will:

- Provide support and resources to SPOs for the successful implementation of the program across schools;

- Provide seed funding to schools for teacher release time to attend training and to participate in the program planning, implementation and monitoring;
- Provide resources and tools developed in the trial of the HSHF Program, e.g. the provision of a HSHF Program Guide; and
- Develop survey data reports of student resilience and health risk behaviours, as well as the data from the School Environment, Staff and Parent Surveys to Principals. Once approved by the principal, the data will be shared with other school staff and school community members for the purposes of school planning.

HSHF School Core Teams

Each school will be asked to form a HSHF School Core Team to implement the HSHF Program. The School Core Team at each school may comprise a Core Team Leader (possibly the Principal, Deputy Principal or Head Teacher Welfare), school staff members, Aboriginal school staff, parents/community members, community organisation members and the SPO. The role of the School Core Team is to implement each stage of the HSHF program in the school (see Part 3 of the HSHF Program Guide for more information regarding the formation and role of this group).

HSHF Working Groups
School Core Teams will be encouraged to develop specific Working Groups to focus on the planning, implementation and review of particular strategies. The SPO will liaise with each Working Group and assist as required.

School Principals
In order to ensure the HSHF program is successfully implemented within each school, Principals by providing consent for their school to participate have committed to:

- Displaying support for and promoting the HSHF program to the school community including during assemblies and executive/ staff meetings;
- Providing a regular, suitable working space for the SPO;
- Considering their own participation as a member of the Core Team, or ensuring at least 1 member of the School Executive is a member of the Core Team;
- Encouraging staff to participate as members of the Core Team and if necessary, nominating individuals for tasks. Participating staff members should not all be attached to one faculty, for example, the PDHPE faculty. If it becomes obvious that a participating staff member does not wish to be involved in the program, approach the Core Team Leader to discuss the situation. If the person concerned is the Core Team Leader, approach the Principal. Negative or unhelpful Core Team members have the capacity to greatly destabilise the course and influence the success or failure of strategy development;
- Participate in the staff surveys; and
- Be encouraging of maintaining and developing a whole-school environment that supports the resilience of students.

2   Part 2: The Healthy Schools, Healthy Futures Program Model

2.1 Overview

The HSHF Program Model involves schools implementing strategies to address student resilience within each of the Health Promoting Schools domains using a whole school approach. There are nine focus areas in total, and you will be provided with annual information regarding what is already in place, and where additional strategies may be required.

The HSHF Program Model focus areas

Curriculum, teaching and learning

1. School has resilience lessons embedded within curriculum
2. School implements resilience programs

Ethos and environment

3. School actively implements policies that impact on student resilience enhancement
4. School implements strategies to ensure the school environment is supportive for all students
5. Effective pedagogy is used within learning environments to enhance student resilience

Partnerships and services

6. Local community organisations/groups/sporting clubs students are promoted and engaged in the school
7. Health and community services are promoted and engaged in the school
8. School implements strategies to increase parental involvement in the school

HSHF Program Model

DOMAIN: Curriculum, teaching and learning strategies to address student resilience

Focus area 1: School has resilience lessons embedded within curriculum

Goal: 100% of students receive a minimum of 12 age-appropriate resilience lessons per year. Lessons are to be of 45 minute duration, delivered in each year of school (7-10) and across Key Learning Areas (that is, 9 hours per student per year)

There are a range of existing curriculum resources for use within class time to address this strategy, including the MindMatters curriculum resources, SenseAbility, the Real Game, and the Resourceful Adolescent Program (RAP).

The MindMatters resources can be integrated into existing curriculum to meet syllabus outcomes because they have been mapped for the PDHPE syllabus, and can be implemented in the English, History, Geography, Mathematics, Science, Technology, Visual Arts and Music Key Learning Areas.

SenseAbility resource – this program is divided into 7 Modules, with each Module addressing a component of resilience and providing classroom activities that are age-

specific, of varying durations, and both individual and group-based. The SenseAbility resource has not yet been mapped to syllabus outcomes.

Your SPO and Regional School Project Coordinator can provide you with examples of how other schools have done this, which can also be presented to your teaching staff on request.

Focus area 2: School implements resilience programs

Goal: 100% of students receive an additional 9 hours of non-curriculum based resilience programs in each year of school chosen from a matrix of available resilience programs

There are a large number of existing programs to choose from that aim to increase student resilience, including *SenseAbility, Resourceful Adolescent Program* (RAP) and *You Can Do It!*. The HSHF Program Matrix Tool (Appendix 1) lists available evidence-based resilience programs. It includes information on the following program characteristics to assist you in deciding which programs are appropriate for your school:

- The particular resilience factors the program aims to address;

- The age group of students targeted by the program;

- The duration of the program; and

- The cost of the program.

Feasible options for how to implement this strategy within your school will be influenced by your school's needs as identified in the School Environment Survey, as well as your school's timetable/program structure. Methods of implementation could include:

- Weekly or fortnightly sessions within Mentor/DEAR/Pastoral Care (or equivalent) programs;

- Within Year meetings or assemblies;

- Integration within existing or proposed school camps and/or excursions (e.g. as a whole day or sessions over the duration of the camp/ excursion);

- Integration within existing whole-school events (e.g. community days, NAIDOC Week, Harmony Day, ANZAC Day);

- Stand-alone events (e.g. camps, excursions, day sessions, whole school events); and/or

- Integration within the sport program (e.g. during one sport session per term).

It is important to make sure that Aboriginal school staff and your local Aboriginal Education Consultative Group is involved in assisting you to select culturally appropriate resilience programs for your Aboriginal students. The Cultural Appropriateness Criteria Tool can assist schools within the HSHF Program to decide on which resilience-focused intervention program they may implement in their schools that are culturally appropriate for their Aboriginal students. The Cultural Appropriateness Criteria Tool is close to being finalised and will be disseminated to staff in 2013.

Goal: 100% of Aboriginal students receive a resilience program in each year of school chosen from the matrix of available resilience programs (e.g. Feeling Deadly Not Shame)

There are a number of existing programs that aim to increase student resilience that have been developed specifically for Aboriginal students, including the *Feeling Deadly Not Shame* and *RAP-A Indigenous* programs. The HSHF Program Matrix Tool (Appendix 1) lists available evidence-based resilience programs.

The Cultural Appropriateness Criteria Tool can assist schools within the HSHF program to decide on which resilience focused intervention program they will implement in their schools that are culturally appropriate for their Aboriginal students. The Cultural Appropriateness Criteria Tool is close to being finalised and will be disseminated to staff in 2013.

Goal (optional): Resilience programs delivered to other sub groups of need

Within your school there may be sub groups of students who have particularly low resilience including those students who may be experiencing grief and loss issues, have a mental health diagnosis or a physical disability.

Your school could consider implementing additional resilience programs for these sub groups students if feasible and sufficient resources are identified within the school to do this. The HSHF Program Matrix Tool (Appendix 1) lists available evidence-based resilience programs.

DOMAIN: Ethos and environment strategies to address student resilience

Focus area 3: School actively implements policies that impact on student resilience enhancement

Goal: Rewards and recognition program implemented across whole school

You may already have in place within your school programs that reward or recognise students for their achievements. It is important that such programs don't focus on only rewarding academic and sporting achievements, but also reward positive student behaviour such as student resilience characteristics (for example students demonstrating good communication and cooperation skills, self-efficacy, or problem solving skills). They can be implemented across all Year levels within your school, and can be promoted at your school assemblies or in school publications. Your SPO can provide you with examples of how other schools have implemented this strategy.

Please refer to the HSHF Program Matrix Tool for a range of existing rewards and recognition programs that you could implement across your whole school.

Goal: Peer support program/peer mentoring program implemented across whole school

This strategy involves ensuring that each student cohort in your school participates in either a peer support program or peer mentoring program between Year 7 and Year 10.

There are a range of existing peer support and peer mentoring programs you could choose to implement (please refer to the HSHF Program Matrix Tool).

You could also consider developing your own strategy to support or mentor particular groups of students within your school. Your SPO can provide you with examples of how other schools have implemented this strategy.

Goal: Empowerment/leadership programs implemented across whole school

Similar to the previous goal, successful implementation of this strategy involves ensuring that each student cohort in your school participates in either a student empowerment or leadership program between Year 7 and Year 10.

There are a range of existing student empowerment or leadership programs you could choose to implement, including the MindMatters Student Empowerment Professional Development module (please refer to the HSHF Program Matrix Tool for additional programs to choose from).

You could also consider developing your own strategy for particular groups of students within your school. Your SPO can provide you with examples of how other schools have implemented this strategy.

Goal: Additional external resilience programs delivered to Aboriginal students

There are a number of existing programs that aim to increase student external resilience that have been developed specifically for Aboriginal students, including cultural leadership programs (please refer to the HSHF Program Matrix Tool for additional programs to choose from).

As with all strategies targeting Aboriginal students, it is important to make sure that Aboriginal school staff and your local Aboriginal Education Consultative Group is involved in assisting you to select culturally appropriate resilience programs for your Aboriginal students.

Focus area 4: School implements strategies to ensure the environment is supportive for all students

Goal: Evidence-based anti-bullying strategies/programs are implemented

There are a number of existing programs that aim to prevent bullying within a school environment, including Positive Behaviour for Learning (please refer to the HSHF Program Matrix Tool for additional programs to choose from).

Alternatively your school may like to develop your own anti-bullying strategies. Evidence suggests that anti-bullying programs are more effective if they are whole-of-school, and include school-wide rules and sanctions, teacher training and classroom curriculum.

Your SPO can provide you with examples of strategies to consider, including establishing safe places within your school for particular subgroups of students.

Goal: Cultural awareness strategies implemented within the school

Cultural awareness strategies implemented across the whole school have the potential to improve student feelings of being safe and supported within a school, and do not need to be restricted to Aboriginal and/or Torres Strait Islander culture. There are a number of cultural awareness strategies that schools may already have in place, including Acknowledgement of Country at school events, display of Aboriginal and Torres Strait Islander flags at the front of the school, celebration of cultural events, Aboriginal and Torres Strait Islander murals in the school, or a dedicated Aboriginal and Torres Strait Islander Education cultural room.

The School Review Checklist (Dare to Lead) can be used to identify current practices to support Aboriginal students as well as to identify additional practices that could be

implemented in schools. Your SPO can assist you to complete this tool and identify possible strategies to implement.

It is important to make sure that Aboriginal school staff and your local Aboriginal Education Consultative Group are involved in selecting appropriate cultural awareness strategies to implement in your school.

Focus area 5: Effective pedagogy is used within learning environments to enhance student resilience

Goal: Teachers offered training to implement pedagogy in line with MindMatters Teaching and Learning for Engagement

The learning environment within a classroom can impact on a range of resilience characteristics including student perception of meaningful participation in school and school support.

There are a number of training opportunities in which staff can participate regarding teaching strategies which can enhance student resilience, including the MindMatters Teaching and Learning for Engagement Focus Module.

DOMAIN: Partnerships and services strategies to address student resilience

Focus area 6: Local community organisations/groups/sporting clubs promoted and engaged in the school

Goal: Local community organisations/groups/sporting clubs students can participate in are promoted and engaged within the school

There is a large number of community organisations, groups and clubs that students can participate in outside of schools hours that can enhance their perception of meaningful participation in the community, including charity organisations (such as Salvation Army, Samaritans, Wesley Mission, St Vincent De Paul, Centacare), Lions or Rotary Clubs, church groups, police youth groups, sporting clubs, Aboriginal community groups and Aboriginal Education Consultative Groups.

Involvement in these community organisations or groups can be promoted through your school via newsletters, presentations at assemblies, distribution of flyers at schools, or groups participating in school events.

You may already be aware of organisations or groups in your local community that students can participate in, however if not your SPO can assist you to identify any additional relevant organisations or groups.

Focus area 7: Access to health and community services is promoted and engaged in the school

It is important that all members of your school community are aware of the health and community services that are available to students with your local area. Examples of services could include Health Services, Youth Services, Community Health, Child and Adolescent Mental Health Service, Aboriginal Medical Services or Aboriginal Health.

Goal: Health and community services are promoted and engaged within the school

There are many ways that available health and community services could be promoted to students within a school. For example information regarding the services could be promoted via flyers, schools newsletters, on student noticeboards, groups could present at school events or assemblies, or you could consider a classroom activity where students do a scoping exercise regarding available services and present to a school assembly.

Your SPO can assist you to scope the available services in your local area and also provide additional examples of strategies other schools have implemented.

Goal: Referral pathways to services developed and promoted to the school community (including staff and parents)

It is important that both school staff and parents are aware of available health and community services available to students, as well as any referral pathways that exist for students to be able to access these services.

Schools may already have in place formal documentation that outlines referral pathways to health and community services for different student sub groups. If not then it is important to document these pathways. It is also important that all school staff are aware of these referral pathways, for example documentation provided to staff and discussed in staff meetings or staff noticeboards.

Parents can be made aware of available services and any referral pathways via information nights, flyers available at schools events including parent teacher nights, or via school newsletters.

Focus area 8: School implements strategies to increase parental involvement in school and school-based activities

Goal: Annual school events implemented to engage parents (not including parent teacher nights, presentation and award events)

One way to increase the number of parents who participate in school-based events and activities is to schedule a range of different school events based on the type of events that the parents from your school are interested in attending. Offering events both within business hours as well as outside of business hours to cater for both working and non-working parents may improve participation rates. Data will be collected via the HSHF Parent Survey to identify the types of event your parents may be interested in attending.

Examples of events could include trivia nights, working bees, cooking classes, woodwork classes, or information sessions focused specifically on enhancing student resilience. Your SPO can provide additional examples of successful events implemented other schools.

Goal: Effective parent communication strategies

Effective communication strategies with parents involve providing regular communication regarding topics of interest and using multiple methods of getting the information to parents.

For example, distributing school newsletters to parents in the mail as well as electronically via email, or providing information via school websites.

Your school could also consider obtaining mobile phone numbers for parents and sending text messages regarding important school events. Your SPO can provide you with additional examples of successful communication strategies with parents.

Goal: Articles regarding student resilience are included in parent newsletters

It is important to provide information to your parents regarding student resilience as well as your progress as part of the HSHF Program to address student resilience.

Your SPO will provide you with regular articles to include in newsletters that describe the many resilience characteristics and information about how parents can impact on these. There will be a particular focus in these articles on providing parents with information about how to addressing meaningful home participation for students and home support.

Your SPO can support your School Core Team to draft regular updates regarding your HSHF Program progress towards addressing student resilience.

3 Part 3: How to implement the Healthy Schools, Healthy Futures Program

3.1 Overview

There are a number of steps that need to be conducted to implement the HSHF program.

These steps vary slightly in each year of the program, however each year may include the following steps which are depicted in the HSHF Planning and Implementation Cycle below (see Figure 4).

Step 1: Data Collection

Student, Staff, Parent and School Environment Surveys will be conducted in schools. The data from these surveys will be provided to schools to identify resilience successes and needs.

Step 2: Planning Workshops

The purpose of the Workshops is to review the data from surveys, present this data to the school community and identify the resilience curriculum and strategies to implement.

The Planning and Implementation

Step 4: Implement School Action Plans

Once the School Action Plans have been endorsed by the School Executive the next step is to implement the strategies listed in the plan. The Core Team plays a major role in this implementation.

Step 3: Develop School Action Plans

Action Plans are developed by the Core Team from the resilience curriculum and strategies identified at the Workshops. These plans are then presented to the School Executive for endorsement.

Figure 4. The HSHF Planning and Implementation Cycle

PRELIMINARY ORGANISATION

Prior to implementing the HSHF program in your school there are three important things to do:

1. Establish your HSHF School Core Team
2. Communicate with your School Community about the HSHF program
3. Consider conducting a risk assessment

1. Establish your HSHF School Core Team

Your HSHF School Core Team, supported by your SPO, will be the driving force behind the successful implementation of the HSHF program in your school. The suggested membership and role allocation for your HSHF School Core Team is described below.

Membership

The School Core Team can sit as an independent team within your school or its role can become part of an existing team within the school, e.g., Student Welfare Team. Whatever your school's choice, it is important that your Core Team represents the expertise within the school, the diversity of the school and the wider school community.

Usually your Core Team will be made up of 8-10 individuals. Although membership will be open to all interested individuals within the school, representation from specific positions within the school is highly recommended. These people provide the required level of authority and expertise to effectively plan and implement the Healthy Schools, Healthy Futures Program.

Members who are recommended to participate in your core team include:

- Principal and/or Deputy Principal
- Faculty Head Teachers/Coordinators
- Your allocated HSHF SPO
- Aboriginal and/or Torres Strait Islander Staff member (Teaching or non-teaching)
- Head Teacher Welfare/School Counsellor (or Welfare Teacher if there is no Head Teacher Welfare position)
- Year Advisors/Coordinators
- Anti-Racism Contact Officer

Other sub groups within your school community to consider inviting representatives from:

- Students
- Parents

Responsibilities

In conjunction with the SPO and the Regional School Project Coordinator, the School Core Team should:

- Meet at least three times per term;
- Manage the HSHF Planning and Implementation Cycle;
- Develop your HSHF Action Plan;
- Drive the implementation of the Action Plan;
- Allocate funding to implement strategies within the Action Plan; and
- Monitor the implementation of the Action Plan.

2. Communicate with your School Community about the HSHF Program

In order to successfully implement HSHF as a whole of school program it is essential that everyone in your school community is informed about the school's participation in the HSHF program.

It is recommended that School Staff are informed as early as possible regarding what participation in the HSHF program involves.

Information regarding the HSHF Program and aspects of student resilience will also be regularly provided to you by your SPO to inform your school community via inclusion in your school newsletter, or presentation by your SPO to school community groups.

Schools that have previously implemented the HSHF Program have also implemented the following communication strategies to assist in keeping their school community updated regarding their HSHF program.

HSHF Program launch

Together with your school executive and SPO your Core Team can launch the HSHF Program within your school by holding a special assembly where school staff, parents, school community members, students and local media organisations are invited, to let everyone know about your participation in the HSHF Program. Officially launching the program will help to inform students, staff, parents and the wider school community of the program and what it is all about.

School Newsletter articles

Include regular articles in the school newsletter about your HSHF Program progress.

HSHF Communication Plan

You might like to include all your planned communication with your school community in a Communication Strategy where all individuals and groups of people who need to be informed or kept in the loop regarding the HSHF Program are listed, as well as when and what you would like to share with them.

You will need to decide what information each individual/group should have access to and the methods to be used to ensure appropriate communication of that information takes place. For example, there may be information that is only suitable for HSHF Core Team members as opposed to the information that needs to be communicated with the wider school or local community.

The methods of communication that may be included in a communication plan include:

- Email;
- Schools bulletins and Newsletters; and
- School portals, such Moodle, SharePoint, Millennium.

3. Consider conducting a risk assessment

All schools should consider conducting a risk assessment prior to implementing the HSHF program to ensure that all risks for students, staff and researchers are minimised.

Your SPO or Regional School Project Coordinator can assist with this is if required.

HSHF Program milestones

There are a number of milestones to be met in each year of the HSHF program implementation based on the HSHF Planning and Implementation Cycle.

On the following pages, a yearly snapshot of these milestones is provided.

The steps required to complete each milestone are described in detail from Page 21.

		Year 1 milestones (2011)		
Term	**Week**	**Step of** **Planning Cycle**	**Task**	**Date completed**
Term 2	Week 1	**Step 1: Data Collection**	Student/parent information for parental consent for student survey participation obtained	
	Week 1		Student survey dates for Term 3 confirmed	
	Week 2		School community informed about upcoming student survey, parent survey and parent information packs	
	Week 3		Mail out parent information packs requesting consent for participation in student survey and completion of the parent survey	
	Week 4-10		Follow up phone calls to non-responding parents for consent for student participation in the student survey	
Term 3	Week 2-10		Student survey conducted	
Term 4	Week 1-6		Parent survey mailed out to parents of Year 7-10 students	
	Week 6-10		Staff survey with all school staff	
	Week 6-10		School environment survey conducted with relevant staff	
	Week 10		Student survey data report provided	
	Week 10	**Step 2: Planning Workshops**	School Core Team formed	

Year 2 milestones (2012)				
Term	Week	Step of Planning Cycle	Task	Date completed
Term 1	Week 2-3	Step 2: Continued	Dates for Workshop 1 and 2 confirmed	
	Week 2-3		Relevant school staff invited to Planning Workshop 1	
	Week 2-3		School community invited to Planning Workshop 2	
	Week 4		Parent survey data report provided	
	Week 4		School environment surveys with relevant staff finalised	
	Week 5		Staff survey data report provided	
Term 2	Week 5-8		Planning Workshop 1 held	
	Week 5-8		Planning Workshop 2 held	
	Week 5-8	Step 3: Develop Action Plan	Appropriate strategies to address identified resilience needs of students and school community selected	
	Week 8-10		Commence drafting Action Plan based on selected resilience strategies	
Term 3	Week 1-3		Action Plan finalised	
	Week 4-6		Action Plan ratified by School Executive	
	Week 7-10	Step 4: Implement Action Plan	Implement resilience strategies from Action Plan	
Term 4	Week 1-10		Monitor/report on progress towards resilience strategy implementation	
	Week 1-10			

| | Week 8-10 | **Step 5: Planning Workshops** | Consider need for Planning Workshop 3 confirmed | |
| | Week 8-10 | | School community invited to Planning Workshop 3 | |

Year 3 milestones (2013)				
Term	**Week**	**Step of Planning Cycle**	**Task**	**Date completed**
Term 1	Week 1-10	**Step 6: Implement Action plan**	Implement resilience strategies from action plan	
	Week 1-10		Monitor/report on progress towards resilience strategy implementation	
Term 2	Week 1-2	**Step 7: Data Collection**	Student survey dates for Term 3 confirmed	
	Week 3-4		Inform school community about upcoming student survey	
	Week 4-10		Mail out parent information packs requesting consent for participation in student survey	
	Week 4-10		Follow up phone calls to non-responding parents for consent for student participation in the student survey	
Term 3	Week 1-10	**Step 8: Implement Action Plan**	Implement resilience strategies from action plan	
	Week 1-10		Monitor/report on progress towards resilience strategy implementation	
	Week 2-10	**Step 9: Data Collection**	Student survey conducted	
	Week 10		Student data reports received	

Term 4	Week 1-10	Step 10: Implement Action Plan	Implement resilience strategies from action plan	
	Week 1-10		Monitor/report on progress towards resilience strategy implementation	
	Week 1-3	Step 11: Planning Workshops	Dates for Workshop 3 confirmed	
	Week 4-10		Relevant school community members invited to Planning Workshop 3	
	Week 4-10		Hold Workshop 3	

Year 4 milestones (2014)				
Term	Week	Step of Planning Cycle	Task	Date completed
Term 1	Week 1-10	Step 12: Implement Action Plan	Implement resilience strategies from action plan	
			Monitor/report on progress towards resilience strategy implementation	
Term 2	Week 1-2	Step 13: Data Collection	Student survey dates for Term 3 confirmed	
	Week 2-3		School community informed about upcoming student survey, parent survey and parent information packs	
	Week 3		Mail out parent information packs requesting consent for participation in student survey and completion of the parent survey	
	Week 4-10		Follow up phone calls to non-responding parents for consent for student participation in the student survey	

Term 3	Week 1-10	**Step 14: Implement Action Plan**	Implement resilience strategies from action plan	
	Week 1-10		Report on final progress towards resilience strategy implementation	
	Week 2-8	**Step 15: Data Collection**	Final student survey conducted	
	Week 2-8		Final school environment surveys with relevant staff conducted	
	Week 2-8		Final staff survey conducted	
	Week 10		Final student, parent, staff and school environment survey data reports provided	
Term 4	Week 5-8	**Step 16: Planning Workshops**	Planning Workshop 1 held	
	Week 5-8		Planning Workshop 2 held	
	Week 5-8	**Step 17: Develop Action Plan**	Appropriate strategies to address identified resilience needs of students and school community selected	
	Week 8-10		Action Plan based on selected resilience strategies drafted	
	Week 10		Action Plan ratified by School Executive	

STEP 1: DATA COLLECTION

A key element of being able to address the resilience needs of your students is to understand what is happening locally in your school. Four surveys will be conducted to collect data regarding the potential areas of student resilience that can be enhanced within your school. The results of these surveys will be used to guide the planning of strategies to address the specific resilience needs of your students and school community.

Confidentiality of responses and anonymity of participants are key elements of the HSHF data collection protocols.

The following surveys will be conducted in designated years:

- Student Survey (see Appendix 2);
- Parent Survey (see Appendix 3);
- Staff Survey (see Appendix 4);
- School Environment Survey (see Appendix 5).

Planning and implementing the surveys

Although each survey differs in regards to their planning and implementation, there a number of aspects that are common to all surveys. These are outlined below:

Responsibility for planning the survey implementation

Each of the surveys have been developed and tested by the HSHF Research Team. It is your SPO and HSHF School Core Team's responsibility to plan the implementation of the survey. This planning should include when during the designated term the survey will be conducted, in what venue and what additional support may be required to implement the survey.

A member of the HSHF Research Team or your SPO should be present when surveys are completed as they are trained in the administration of each of the surveys.

Informing your School Community about the surveys

It is important to inform your staff, parents and students about the surveys including what the surveys are about and why they are being conducted. This should be done through your school's usual communication methods including your school newsletters, presentations at staff meetings, and school assemblies.

Analysis and report development

The HSHF Research Team will be responsible for collating and analysing the results of all four surveys each year and providing a report back to your school. The reports will identify what is working well and which areas your school might like to address.

STUDENT SURVEY: OVERVIEW AND ADMINISTRATION INSTRUCTIONS

The survey tool

The Student Survey is an online self-report survey and will ask students about their socio-demographic characteristics (including age, gender, school year, and identification as an Aboriginal and or Torres Strait Islander), their internal and external resilience factors, a range of mental health characteristics and their health-risk behaviours (tobacco, alcohol and drug use, physical activity, nutrition, and sexual practices for students in Year 10 in government schools only), (the Student Survey is provided in Appendix 2).

Who should complete the survey?

All students in Years 7 to 10 will be invited to participate in the survey. Only those students for whom parental consent has been received will be able to participate.

It is the responsibility of your SPO and the HSHF Research Team to complete the following tasks to identify in Term 2 which students can complete the survey:

▪ Liaise with relevant school staff to obtain the names and parental contact details of Year 7 to 10 students to participate in the student survey. In 2011 consent will be requested from parents for the entire study, such that in 2013-2014 consent will only be requested for any new enrolments;
▪ Mail information packs directly to parents informing them about the student survey and requesting consent for student participation;
▪ Monitoring and collating returned consent forms from parents (parents are provided with a reply paid envelope to return their consent forms which are sent to Hunter New England Population Health Wallsend office for collation); and
▪ Prompting any non-responding parents via telephone for consent for student participation
▪ Informing your school regarding the final list of students for whom consent has been received and who can participate in the student survey.

Administering the survey

The student survey takes between 25 and 35 minutes to complete and is sent directly to students' school email address by members of the HSHF Research Team. Students are asked to complete the survey during class time under the guidance of members of the HSHF Research Team.

Your SPO and members of the HSHF Research Team will be responsible for administering the survey to your students.

A supervising teacher is required in each class room to maintain your school's duty of care and to monitor student behaviour.

Support is required from an IT contact within your school to assist students who do not know their school computer log-on details or are unable to log-on to their school email address.

Students can complete the online survey on either school desktop computers in computer labs, or on their school-allocated laptops in classrooms with wireless internet access.

Planning the survey implementation

Your SPO will ask you in early Term 2 to nominate a schedule for completing your student surveys during Term 3. This will include a main round of surveying as well as some 'mop up' dates to survey any students who were not able to complete the survey in the main round of surveys.

Important things to consider when scheduling your Student Surveys:

- It is recommended that no more than 2 classes of students are scheduled at once to complete the student survey if only one IT support person is available;
- If a class is scheduled to complete the survey via school-allocated laptops it is recommended that school desktop computers are also available for those students who don't remember to bring their laptops to schools or whose laptop batteries are flat;
- For the main round of student surveys schools have previously found it easier to schedule entire classes to complete the survey at once. Depending on the number of computer labs available and students who need to complete the survey you may need to put aside between 1 and 5 days to complete the main survey round;
- For 'mop up' surveys schools have previously found it easier to book out a computer lab for a day or two depending on the size of the 'mop up' and call students out of their classes to complete the survey;
- In order to maintain the exam-like conditions for completing the survey it is recommended that only students whose parents have provided consent for them to participate in the survey are present in the survey room. So if you do schedule whole classes to complete the survey you will need to also make arrangements for any students who do not have parental consent to complete the survey; and
- In order to ensure support is available if required it is recommended that you notify your School Counsellors of the dates of your student survey and provide them with an information letter describing the content of the student survey.

Two weeks before your survey dates…The HSHF Research Team will send you a list of students whose parents we have not been able to contact. Please review this list and provide any updated contact details you are able to obtain from students.

One week before your student surveys…The HSHF Research Team will provide you with the current list of students whose parents have consented to their participation in the student survey.

On the day of surveying…Your SPO and any supporting HSHF Research Team members will have a roll-call list of all students scheduled to complete the surveys on that day so that they can mark off who has completed the survey. They will also ask you to provide your absentee lists for that day in order to mark off any students who are absent.

Informing staff and students about the survey

An information sheet has been developed to provide to staff who have been asked to assist with the supervision of classes completing the survey.

Validation of adolescent-reported physical activity and smoking

As part of the HSHF research project, a validation of self-reported physical activity and tobacco use is planned in the first (2011) and final year (2014).

For physical activity validation, consenting students attending both NSW Government and Catholic schools will be randomly selected to wear a pedometer the week before the survey.

For tobacco use, consenting students attending Catholic schools will be randomly selected to provide a saliva sample on the day of the survey to be tested for cotinine (a biomarker produced by nicotine use).

The self-reported data collected via the Student Survey regarding physical activity and smoking will then be compared to the pedometer and cotinine data to see how closely they match.

The HSHF Research Team and your SPO are responsible for selecting students to participate in the validation and collection of data from students, however school staff may be asked to assist with this.

PARENT SURVEY – OVERVIEW AND ADMINISTRATION INSTRUCTIONS

The survey tool

Parents of children who attend intervention schools are also asked to complete a survey about the factors that contribute to the health and wellbeing of their child/children. This includes questions about how the child/children feel at school, and how supportive and encouraging the school is to parents/carers and their child/children. The survey will take approximately 15 minutes to complete and can either be completed online or in written form (the parent survey is provided in Appendix 3).

Who should complete the survey?

All parents of students in Years 7-10 will be invited to participate in the survey. The parent survey provides an opportunity for parents to share their views, opinions and ideas about the school, relevant to the HSHF Program.

Informing parents

An information letter will be included with the mail-out of the survey for parents regarding the content of the survey and what the data collected will be used for.

Information on the parent survey will be provided to parents in Term 2. In addition to the information provided in this package, your school is also encouraged to promote the parent survey through a variety of other methods. These may include:

- School Newsletter;
- School Website; and/or
- School Notice Board.

Administering the survey

The distribution and collation of the parent surveys will be the responsibility of the HSHF Research Team and your SPO. Parents will be provided with a reply-paid envelope to return pen and paper versions of the survey to the HNE Population Health office for collation by the HSHF Research Team.

Schools can consider alternative methods to increase participation in the parent survey e.g. parent teacher nights.

STAFF SURVEY – OVERVIEW AND ADMINISTRATION INSTRUCTIONS

The survey tool

The staff survey is a pen and paper survey that will be completed during work time in Term 1, most likely at a whole staff meeting. Staff will be asked questions regarding factors that contribute to the health and well-being of the school community. Questions include those about promoting a safe and friendly environment at school, communication and participation in decision making, policy procedures, school connection, resilience and help seeking behaviour and goals and aspirations (the staff survey is provided in Appendix 4).

Who should complete the survey?

The survey will be made available to all school staff (teaching and non-teaching) regardless of whether they are full-time, part-time or casual.

Informing staff

An information letter will be distributed to all staff providing information on the survey including why the survey is being conducted and what is covered in the survey.

In addition to the information sheet, a staff information session should also be scheduled. This session may be scheduled within a staff meeting or other faculty meeting where staff can be provided with the information letter and offered the opportunity to ask questions. This session should also cover when the staff survey will be emailed to them (or if pen and paper provided to them) and when the survey needs to be completed and returned by.

Planning the survey implementation

There are a number of steps to planning the implementation of the staff survey:

- Decide on your preferred date for implementing the staff survey.
- Obtain and distribute copies of the staff survey Information letter to all staff.

SCHOOL ENVIRONMENT SURVEY – OVERVIEW AND ADMINISTRATION INSTRUCTIONS

The survey tool

The school environment survey is a semi-structured interview with school staff to review current school curriculum and practices regarding resilience interventions and strategies (the school environment survey is provided in Appendix 5).

Who should complete the survey?

The School Principal and various other staff that the School Principal nominates will be invited to participate in the survey.

Informing staff

The Principal will inform the relevant staff regarding the survey in the first instance. Your SPO will then contact staff individually to find a convenient time to conduct the survey.

Administering the survey

Your SPO will ask the School Principal to nominate relevant staff to complete the survey and will arrange individual interviews with each participating staff member.

School staff will be provided with a copy of the school environment survey prior to the interview in order to collect any relevant documents or seek information from other school staff regarding the resilience strategies that are currently in place.

STEP 2: PLANNING WORKSHOPS

The Planning Workshops help to decide what strategies your school is going to implement to address the focus areas within the HSHF Program Model.

The type of workshop to be delivered will depend on what stage your school is up to in implementing the program.

Workshop 1 – Resilience Curriculum Workshop (2012): To allow key staff representatives to review existing resilience curriculum and programs detailed in your school environment survey data report, prioritise key resilience issues as per the HSHF program model and identify strategies to address these issues over the following 2 years.

Workshop 2 – School Community Workshop (2012 and 2014): To allow representatives from the whole school community to learn about the HSHF program, the key resilience issues as per the HSHF program model and contribute to the selection of non-curriculum strategies for implementation within the school over the following 2 years.

Workshop 3 – Review and Refocusing Workshop (2013): To allow representatives from the whole school community to review progress, evaluate the success of resilience strategies implemented to date and to refocus on the areas of your action plan that have not been implemented as yet.

Workshop preparation

There a number of preparation steps consistent for all Planning Workshops. Your SPO will lead workshop preparation.

- Plan who should attend the workshop;
- Find an appropriate room to hold the workshop in. The workshop should be held on school grounds to ensure that invited staff and students are able to attend. Ensure that the location is booked well in advance so that the location can be indicated on invitations;
- Invite all proposed participants at least two weeks prior to the planned workshop date;
- Notify teaching staff if students will be attending the workshop;
- Organise a Welcome to Country or Acknowledgement of Country;
- Arrange release for teachers attending the workshop if required;
- Nominate someone to record the minutes from the workshop;
- Organise catering for participants; this may include morning tea, lunch or afternoon tea depending on the time of the workshop. You may choose to use the school canteen or it may be an opportunity for school students to gain experience or to meet course requirements by providing catering. Providing healthy food (or healthy options) is encouraged; and
- Arrange appropriate equipment to be available e.g. Laptop (containing PowerPoint) and projector or a smartboard; whiteboard and whiteboard pens; attendees list, to keep an accurate record of those that attend; and name tags (including what group the person is representing)

Planning Workshop 1 (Resilience Curriculum)

Purpose

Provides a forum for key staff representatives to review the data collected via the school environment survey regarding resilience curriculum, programs and pedagogy, identify any gaps compared to the HSHF Program Model, and prioritise strategies to address the gaps.

HSHF Program Model focus areas to be addressed

Focus area 1: School has resilience lessons embedded within curriculum

Goal: 100% of students receive at least 12 age appropriate resilience lessons. Lessons are to be of 45 minute duration, delivered in each year of school and across Key Learning Areas

Focus area 2: School implements resilience programs

Goal: 100% of students receive an additional 9 hours of resilience programs in each year of school chosen from matrix of available resilience programs

Goal: 100% of Aboriginal students receive a resilience program in each year of school chosen from matrix of available resilience programs (e.g. Feeling Deadly Not Shame)

Goal (optional): Resilience programs delivered to other sub groups of need

Focus area 6: Effective pedagogy is used within learning environments to enhance student resilience

Goal: Teachers offered training to implement pedagogy in line with MindMatters Teaching and Learning for Engagement

Implementation

Implementation of the workshop is likely to vary between schools and it is important to consult with your School Liaison Person to ensure the workshop is accommodating of the schedule of school staff. Schools may choose to use a meeting that already occurs e.g. Executive Meeting. Alternatively, schools may choose to hold the workshop outside of existing meeting times.

Further, schools may choose to address part of the workshop in one meeting and finalise it in other forums. For example, a meeting of Head Teachers of all Key Learning Areas may be a first step to identifying what additions can be made to curriculum. Modification of curriculum content may then be progressed and finalised within faculties. Similarly, the School Executive meeting may be a first step on discussing additional resilience programs and effective pedagogy.

Participants

Participants in the Curriculum workshop can be School Executive, Year Advisors, Head Teachers, SPO, the HSHF Research Team, and Regional School Project Coordinator. It is important to include Aboriginal staff and other members of your local Aboriginal community, either in Curriculum or Community workshops.

Workshop content

- HSHF Program Model;
- Presentation of curriculum, resilience program and pedagogy gaps and successes identified by the HSHF Research Team via the school environment survey;
- Workshop how to address gaps and expand successes;
- Decide who will develop curriculum content and identify programs to address gaps and build on success; and
- Include actions in the school's Healthy Schools, Healthy Futures Action Plan.

Planning Workshop 2 (School Community)

Purpose

Provide a forum for key school community representatives to learn about the HSHF Program, the key resilience issues as per the HSHF Program model and contribute to the selection of non-curriculum strategies for implementation.

It is important to remember that it is unlikely that final strategies will result from this workshop. It is likely a number of ideas will emerge from the workshop. It is then the responsibility of the SPO and the HSHF Core Team to further develop and prioritise strategies.

HSHF Program Model focus areas to be addressed

Focus area 2: School implements resilience programs

Goal: 100% of students receive an additional 9 hours of resilience programs in each year of school chosen from matrix of available resilience programs

Goal: 100% of Aboriginal students receive a resilience program in each year of school chosen from matrix of available resilience programs (e.g. Feeling Deadly Not Shame)

Goal (optional): Resilience programs delivered to other sub groups of need

Focus area 3: School actively implements programs/practices to enhance external resilience factors

Goal: Rewards and recognition program implemented across whole school

Goal: Peer support program/Peer mentoring program implemented across whole school

Goal: Empowerment/leadership programs implemented across whole school

Goal: Additional external resilience programs delivered to Aboriginal students

Focus area 4: School implements strategies to ensure the environment is supportive

Goal: Evidence-based anti-bullying strategies/programs are implemented

Goal: Cultural awareness strategies implemented within the school

Focus area 5: Local community organisations/ groups/clubs promoted and engaged in school

Goal: Local community organisations/groups/clubs students can participate in are promoted and engaged in school

Focus area 7: Access to health and community services promoted and engaged in school

Goal: Health and community services are promoted and engaged in the school

Goal: Referral pathways to services promoted to staff and parents

Focus area 8: School implements strategies to increase parental involvement in school

Goal: Annual school events implemented to engage parents

Goal: Effective parent communication strategies

Goal: Articles regarding student resilience are included in parent newsletters

Implementation

Implementation of the workshop will occur via a meeting of school community representatives.

Participants

It is important to involve a range of school and community members to provide an opportunity for broad and inclusive consideration of possible resilience strategies to be implemented, especially given a large majority of the strategies will involve various school community representatives.

The workshop attendees should include the HSHF Core Team, SPO, HSHF Regional School Project Coordinator, HSHF Research Team, members of the school executive, both teaching and non-teaching school staff (Aboriginal and non-Aboriginal), students representatives from all Year groups, parents, representatives from local community organisations and groups (for example youth groups and sporting groups), representatives from local health and community services, including services that work with Aboriginal youth, representatives from the local Aboriginal community (for example Aboriginal Elders), and Regional School representatives such as Deputy Principal, Behaviour Support and Welfare Consultants.

Basic agenda

- Background to HSHF Program;
- HSHF Program Model;
- Student survey outcomes (data to be presented to be approved by School Principal);
- School environment survey outcomes regarding current strategies implemented in each focus area (if available at time of workshop);
- Consider recommended resilience resources and programs; and
- Future actions to implement as part of HSHF Program.

Planning Workshop 3 (Review and Refocusing)

Purpose

To review progress, evaluate the success of resilience strategies implemented to date and to refocus on the areas of your action plan that have not been implemented as yet.

HSHF Program Model focus areas to be addressed

Focus area 1: School has resilience lessons embedded within curriculum

Goal: 100% of students receive at least 12 age appropriate resilience lessons. Lessons are to be of 45 minute duration, delivered in each year of school and across key Learning Areas

Focus area 2: School implements resilience programs

Goal: 100% of students receive an additional 9 hours of resilience programs in each year of school chosen from matrix of available resilience programs

Goal: 100% of Aboriginal students receive a resilience program in each year of school chosen from matrix of available resilience programs

Goal (optional): Resilience programs delivered to other sub groups of need

Focus area 3: School implements programs/practices to enhance external resilience factors

Goal: Rewards and recognition program implemented across whole school

Goal: Peer support program/Peer mentoring program implemented across whole school

Goal: Empowerment/leadership programs implemented across whole school

Goal: Additional external resilience programs delivered to Aboriginal students

Focus area 4: School implements strategies to ensure the environment is supportive for all students

Goal: Evidence-based anti-bullying strategies/programs are implemented

Goal: Cultural awareness strategies implemented within the school

Focus area 5: Effective pedagogy is used within learning environments to enhance student resilience

Goal: Teachers receive training and implement pedagogy in line with MindMatters Teaching and Learning for Engagement

Focus area 6: Local community organisations/ groups/clubs promoted and engaged in school

Goal: Local community organisations/groups/clubs students can participate in are promoted and engaged in the school

Focus area 7: Access to health and community services promoted and engaged in school

Goal: Health and community services are promoted and engaged in the school

Goal: Referral pathways to services promoted to staff and parents

Focus area 8: School implements strategies to increase parental involvement in school

Goal: Annual school events implemented to engage parents

Goal: Effective parent communication strategies

Goal: Articles regarding student resilience are included in parent newsletters

Implementation

Implementation of the workshop will occur via a meeting of school community representatives.

Participants

The workshops attendees should include the HSHF Core Team, SPO, HSHF Regional School Project Coordinator, HSHF Research Team, members of the school executive, both teaching and non-teaching school staff (Aboriginal and non-Aboriginal), students representatives from all Year groups, parents, representatives from local community organisations and groups (for example youth groups and sporting groups), representatives from local health and community services, including services that work with Aboriginal youth, representatives from the local Aboriginal community (for example Aboriginal Elders), and Regional School representatives such as Deputy Principal, Behaviour Support and Welfare Consultant.

Basic agenda

- Review background to HSHF Program and Program Model;
- Recap strategies selected from Workshops 1 and 2;
- Core Team presentation of selected strategy progress;
- Discussion regarding effectiveness and evaluation of implemented strategies;
- Identify outstanding strategies from school Action Plan;
- Identify any emerging resilience needs; and
- Prioritise strategies for action.

STEP 3: ACTION PLAN DEVELOPMENT

When Planning Workshops 1 and 2 have been completed, the HSHF Action Plan will be developed. Development of the Action Plan is the responsibility of the School Core Team with the support of your SPO and Regional School Project Coordinator.

You could consider establishing a working group from your School Core Team of 4-5 people including your SPO and a member of your executive to develop your Action Plan, then provide a draft to your School Core Team for an opportunity to review.

Whether as an entire School Core Team or as a working group, the team will need to work out specific details such as who will be responsible for implementing strategies, the timeframes for implementation, budget costs and realistic goals.

Writing the Healthy Schools, Healthy Futures Action Plan

An Action Plan template has been developed to use and is included as Appendix 6.

This section of the guide will provide step by step instructions for completing the action plan.

Documenting the progress of implementation is a key component of monitoring the implementation. Whenever the Action Plan or a particular strategy is discussed it should be documented. Documenting will not only help to keep your team up to date on progress, but will also help your team plan strategies for implementation next year. Also importantly, good documentation will help to keep your Core Team, Action Plan and strategies sustainable in the event that membership of your Core Team changes over the duration of the program.

There a number of key issues to consider when developing your Action Plan including:

- *Key Strategies*
  Key strategies are the planned strategies (tasks or actions), that will be implemented to address each strategic priority (resilience issue). When completing this section it is very important to be as specific as possible about a strategy so that anyone reading the Action Plan can understand what is required. This will be particularly important for sustainability and ensuring that if there is any turnover within the Core Team, any new members will be able to understand what is expected for a particular strategy.

  Key Strategies in the Action Plan are organised under the three domains of the whole-school approach. This approach recognises that to increase the resilience and improve the health and wellbeing of your students, strategies need to be implemented in one or more of the domains that make up the whole-school approach; 1) curriculum, teaching and learning; 2) ethos and environment; 3) partnerships and services. A whole-school approach will only be achieved if strategies targeting each area are implemented.

- Objectives
  The objectives that you set for each strategy are how your Core Team will measure the effectiveness of each strategy. Setting targets will encourage your school to measure outcomes and gather information that could be used to evaluate progress in other areas of welfare. Things to consider:

- Choose objectives that can be easily measured and ideally are already being measured. Consider data from the student surveys, or data already collected within the school, such as bullying incidents.
- If you need to devise a means of measurement or a system for recording measurement then put this in the HSHF Action Plan as a key strategy.
- Take a baseline measurement before the implementation of tasks/activities so that it can be compared to future measurements after they have been implemented.

- *Timeframe*

    The estimated date or amount of time that the Core Team anticipates each key strategy will need in order to be implemented should be recorded under each respective year for each strategy.

- *Leaders*

    Who is the person(s) responsible for implementing each key strategy? Consider the following:

    Are the responsibilities shared among a large group and not allocated to one or two people?

    Has a Working Group been established for each strategy – or considered for each strategy?

    Have people outside the Core Team been allocated tasks?

    Have all the people responsible for tasks been consulted and agreed to implement tasks?

Not all strategies need to be the responsibility of school staff. Youth services or other members of the school and community may take responsibility for implementing strategies.

- *Target Group/s*

    This section will be used to document who will be receiving the strategy. For example, will this particular strategy be provided to all students in all years, or only to particular groups of students such as Year 8 or Year 9 girls?

- *Frequency*

    Frequency refers to how often students will receive the strategy i.e., when students will receive the strategy and for how long. An example of what information should be provided in the frequency column: 20 minutes, once a week (during English) for Term 1.

4 Part 4: Program Guide Appendices

PROGRAM GUIDE APPENDIX 1: HSHF PROGRAM MATRIX TOOL

Quick Matrix of Programs and Curriculum Resources Targeting Resilience

Use this guide to identify programs and curriculum resources for your school that target resilience, according to which internal and external factors they influence.

The guide can be used to select programs and curriculum resources based on which age groups they target; whether they involve parents/carers, school staff, or Aboriginal students; the length/duration of student participation in the program; the approximate cost; and whether it has been evaluated.

The matrix below includes only brief information to identify potential programs and resources.

Program Title	Home	School	Comm	MP-H	MP-S	MP-C	PSP	PCR	C&C	SE	E	PS	SA	G	12	13	14	15	16	Parents/Carers	School Staff	Aboriginal students	Length/Duration (for student participation) ^ % v	Approximate Cost # $	Evaluation
ABCD Parenting Adolescents[1]	●								●			●								●	●		n/a	$200-$500	
Aboriginal Girls Circle[16]	●	●	●	●	●	●	●	●	●	●		●		●	●	●	●	●	●		●	●	20-25 hours	$4,000	
ACE[1]		●					●		●			●	●				●	●			●		10-15 hours	$500-$1,000	●
Activ8! Program[17, 18, 19]		●	●		●	●	●	●				●	●	●		●	●				●		5-10 hours	$4,000+	
Aussie Optimism[1]	●	●					●	●	●				●		●	●					●		15-20 hours	$500-$1,000	●
BART (Being A Resourceful Teenager)[20, 21]	●	●	●				●	●	●					●	●	●	●						10-15 hours	Unspecified*	
Being Me: ABC Health Series[1]							●	●	●			●			●	●					●		2-5 hours	$0-$200	
BeyondBlue SenseAbility[23]	●	●	●	●	●		●		●	●		●	●	●	●	●	●	●	●		●		Unspecified*	Free	
Big Night Out[1]													●			●	●	●	●		●		Unspecified*	$0-$200	

Program	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Time	Cost	
Black on Track[24]		•	•		•	•			•			•	•	•	•	•	•	•		•	•	20-25 hours	$4,000+	
Bounce Back![1]	•	•		•	•	•	•	•	•	•		•	•	•	•	•	•			•		Unspecified*	$0-$200	
Boys education, boys' outcomes project[1]		•	•					•												•		n/a	$1,000-$2,000	
BRAVE[1]												•	•		•	•	•	•	•	•		10-15 hours	$0-$200	
Bullying. No Way! website[1]		•				•	•	•				•	•		•	•	•	•	•	•	•	Unspecified*	Free	•
Bursting the Bubble website[1]												•	•		•	•	•	•	•	•	•	Unspecified*	Free	•
CAPER (Child and Adolescent Psychological and Educational Resources) website[1]		•				•	•					•			•	•	•	•	•	•		Unspecified*	Free	
Challenges and Choices[10]	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•				•		Unspecified*	Free	
Changing Tracks[13]						•		•				•	•	•	•	•				•		10-15 hours	$4,000+	•
Cheap Thrills[25]		•		•	•						•	•			•	•	•			•		0-2 hours	$500 - $1,000	
Circle of Courage[1]				•	•	•	•	•	•	•		•		•	•	•				•		Unspecified*	$500-$1,000	
Confident Kids[13] (Exploring Together)						•	•	•			•	•		•	•	•			•	•		15-20 hours	$500-$1,000	•
Cool Kids[26, 27]											•	•		•	•	•	•	•	•	•		15-20 hours	$0-$200	•
Coolness Under Pressure[1]	•							•			•	•		•	•					•		10-15 hours	Free	•
Cyberia[28]		•		•	•		•	•	•		•			•	•	•	•			•		0-2 hours	$500-$1,000	
Dare To Lead[29]		•	•	•	•		•			•		•		•	•	•	•	•		•	•	Unspecified*	Free	
Digging Deep[1]								•				•		•	•	•	•	•		•		Unspecified*	$0-$200	
Dove Body Think[31]								•				•		•	•	•	•			•		2-5 hours	$0-$200	
Embrace the Future Website[32]	•	•			•		•	•			•	•	•	•	•	•	•	•				Unspecified*	Free	
Exploring Together – Adolescent Program[1]	•			•							•	•		•	•	•	•	•	•	•	•	15-20 hours	$500-$1,000	•

Program																							Hours	Cost	
Families and Schools Together (FAST)[1]	●	●	●	●	●	●	●		●			●	●	●	●	●				●	●	●	15-20 hours	$3,000+	●
Feeling Deadly Not Shame[34]	●	●	●			●	●	●	●	●		●	●		●	●	●	●	●			●	2-5 hours	Free	
Fit To Lead[1]							●		●	●		●	●	●	●				●				Unspecified*	$0-$200	
Friendly Schools and Families[1]	●	●					●					●	●	●	●	●	●	●	●			●	Unspecified*	$200-$500	
FRIENDS For Life – For Youth[1]	●	●			●	●	●		●		●	●	●	●	●	●	●			●			10-15 hours	$500-$1,000	●
Gatehouse Teaching Resources[14]	●	●			●	●	●	●	●	●	●	●		●	●	●	●	●			●		Unspecified*	Free	●
Get It Together[1]		●		●	●			●			●	●	●	●	●	●	●			●			2-5 hours	$1,000-$2,000	
Girls on the Go![13]		●		●	●				●		●		●	●	●	●	●			●			30-40 hours	$1,000-$2,000	
Good Days Ahead[1]									●		●	●	●	●	●	●			●				Unspecified*	$1,000-$2,000	
Headroom Website[1]	●	●	●				●		●	●		●	●	●	●	●	●	●			●		Unspecified*	Free	
Heartmasters[1]						●	●		●	●	●	●	●						●				15-20 hours	$200-$500	
HIPP (Help Increase the Peace)[1]		●	●			●		●		●	●	●	●	●	●	●	●	●	●			●	20-25 hours	$0-$200	●
Interrelate Family Centres[1]	●					●		●	●		●	●	●	●	●	●	●	●	●				Unspecified*	Unspecified*	
Just Ask website[1]							●		●			●	●	●	●	●	●	●					Unspecified*	Free	
Keep Safe Stay Cool[1]		●	●	●	●		●		●				●	●	●	●							2-5 hours	Free	
Kids Helpline Peer Skills Program[1]		●	●			●		●	●		●	●	●			●	●	●		●			10-15 hours	$200-$500	
Let's Have A Yarn with Yarn[35]		●			●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	10-15 hours	$1,000-$2,000	
Life Whys[1]		●						●			●	●			●	●	●						2-5 hours	$500-$1,000	
Literature for Life[1]		●		●	●			●			●		●	●	●	●	●			●			Unspecified*	$0-$200	
Love Bites[36]							●				●	●			●	●	●						5-10 hours	$0-$200	

Program																							
Mental Health First Aid for Aboriginal and Torres Strait Islander Program[37, 38]										•	•								•	•		n/a	$0-$200	
Mental Health First Aid[1]										•	•								•			n/a	$0-$200	•
MindMatters[1]	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		Unspecified*	Free	•
Motivational Media		•		•		•	•	•	•	•	•	•	•	•	•	•	•	•				0-2 hours	$1,000-$2,000	
MPower Girls[1, 7]				•		•	•	•	•		•	•	•	•					•			5-10 hours	$0-$200	
My Friends	•			•		•	•		•	•	•	•		•	•	•	•	•				5-10 hours	$500-$1,000	
No Blame Bullying Prevention (Support Group) Approach[1]		•				•		•		•	•	•		•	•	•	•	•	•			Unspecified*	$0-$200	
Opt In - Expressions		•			•		•					•		•	•	•	•	•				Unspecified*	$0-$200	
Optimistic Kids[1]	•	•		•	•			•	•		•	•	•	•								15-20 hours	$3,000+	
Outward Bound		•		•	•		•		•	•	•	•	•	•	•	•	•	•		•		40+ hours	$50,000+	•
Parent Effectiveness Training (PET)[12]	•							•		•									•	•		n/a	$0-$200	•
Parenting Adolescents: A Creative Experience (PACE)[1]	•								•		•	•	•	•	•	•		•		•		n/a	$200-$500	•
Parenting Wisely[1]	•							•				•							•	•		n/a	$1,000-$2,000	•
Parents & Adolescents Changing Together (PACT)[1] (Exploring Together)	•	•		•	•		•							•	•	•		•	•	•		15-20 hours	$200-$500	•
PASSPORT Program[2]			•	•		•		•	•	•	•	•	•	•	•	•	•	•	•			20-30 hours	$0-$200	
Peer Mediation[1, 7]			•	•	•		•		•					•	•				•			Unspecified*	$1,000-$2,000	
Peer Support (Stride Foundation)[9]		•	•				•			•	•		•	•					•			20-30 hours	$200-$500	•
Plan-It Youth Mentoring		•	•		•	•		•					•				•					20-30 hours	Unspecified*	
Program Achieve[1]	•	•				•		•	•		•	•	•	•	•	•	•	•	•	•		20-30 hours	$1,000-$2,000	•

Program	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Time	Cost	
Quest 4 Values[1,7]	•							•	•	•		•	•	•							•		40+ hours	$0-$200	
Rainbow Silver Linings Community Crisis Response Program[13]		•	•							•		•	•	•	•	•					•		5-10 hours	$200-$500	
Reach Out website[1]			•	•				•	•		•	•	•	•	•	•				•	•		Unspecified*	Free	•
Resilience Doughnut	•	•	•	•	•	•	•			•		•	•		?	?	?			•	•		n/a	$200-500	
Resilience Education and Drug Information (REDI)[10]		•								•		•	•	•	•	•							Unspecified*	Free	
Resilient Kids[1]	•	•		•	•			•	•		•	•	•	•	•	•	•	•	•		•		40+ hours	$0-$200	
Resourceful Adolescent Program – Adolescent[1]		•					•		•	•	•	•	•		•	•	•	•		•	•		10-15 hours	$500-$1,000	•
Resourceful Adolescent Program – Parent (Indigenous)[1]	•							•	•	•	•	•								•		•	n/a	$500-$1,000	•
Resourceful Adolescent Program – Parent[1]	•							•	•	•	•	•								•			n/a	$500-$1,000	•
Resourceful Adolescent Program – Teachers[1]	•												•								•		n/a	$500-$1,000	•
Roads To Refuge		•	•							•		•	•	•	•	•					•		5-10 hours	$0-$200	
Rock and Water[1]		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		10-15 hours	$500-$1,000	•
School Reconciliation Challenge															•	•	•	•	•	•	•	•	10-15 hours	Unspecified*	
Seasons for Growth[1]		•			•	•	•	•		•	•	•	•		•	•	•	•	•		•		5-10 hours	$500-$1,000	•
SECOND STEP[3,4]		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•		20-30 hours	$500-$1,000	•
Seeing Red: Girls, Boys and Anger[1]	•	•	•		•	•	•	•	•		•	•			•						•		10-15 hours	$1,000-$2,000	
Skills for Adolescence[1,15]	•	•	•	•	•	•	•	•			•	•	•	•	•	•			•	•			30-40 hours	$200-$500	•

Program	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Hours	Cost	24
Social Decision-Making and Social Problem-Solving[5,6]	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					●		30-40 hours	$0-$200	●
Sticks and Stones		●		●		●	●		●					●	●	●	●	●				●		0-2 hours	$500-$1,000	
Stop Think Do[1]		●				●		●	●			●		●	●	●	●	●		●		●		Unspecified*	$200-$500	
Stories of Us[1]						●		●	●		●	●		●	●	●	●	●				●		0-2 hours	$200-$500	
Stronger Smarter		●	●						●			●	●									●	●	Unspecified*	$4,000+	
Students Managing Anger and Resolution Together (SMART)[1]					●	●	●					●		●	●	●	●					●		5-10 hours	$200-$500	
The Alannah and Madeline Foundation[1]		●							●		●	●		●	●	●	●					●		Unspecified*	Free	
The Hurting Game		●		●	●		●	●	●			●		●	●	●	●					●		0-2 hours	$500-$1,000	
The P.E.A.C.E Pack. A program to reduce bullying in schools[1]	●					●	●	●			●	●		●	●	●	●	●				●		Unspecified*	$0-$200	●
The Real Game		●							●		●	●	●	●	●	●	●	●				●		15-20 hours	$200-$500	
Thinking, Feeling, Behaving[1,7]				●	●		●	●			●	●		●	●	●	●	●				●		20-30 hours	$0-$200	
Together Parenting[11] (Exploring Together)	●						●		●	●										●		●		20-30 hours	$200-$500	●
Travellers[1]	●	●	●	●	●	●	●	●				●				●	●					●		10-15 hours	$1,000-$2,000	●
Tribes TLC[1]	●	●	●	●	●	●		●		●	●		●	●	●	●	●	●				●		Unspecified*	$200-$500	●
Triple P - Positive Parenting Program (Group Teen)[1]	●						●	●		●	●									●		●		n/a	$1,000-$2,000	●
Triple P Group Indigenous Triple P[1]	●						●	●		●	●									●		●	●	n/a	$1,000-$2,000	
Values Education Toolkit[1,7]		●						●	●	●	●	●		●	●	●	●					●		Unspecified*	$0-$200	
Verbal Combat		●		●	●		●	●	●		●			●	●	●	●	●				●		0-2 hours	$500-$1,000	
Why Try[1]				●	●			●	●		●	●	●	●	●	●	●	●				●		20-30 hours	$1,000-$2,000	●
Wired		●		●	●						●	●					●	●				●		0-2 hours	$500-$1,000	
Yellow Ribbon[1]						●					●	●		●	●	●	●	●				●		Unspecified*	Free	
You Can Do It![1]	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		Unspecified*	$1,000-$2,000	●

PROGRAM GUIDE APPENDIX 2: STUDENT SURVEY

Healthy Schools, Healthy Futures

Student Survey

Please fill in the information below:

dem01 How old are you today? _____

dem02 What year are you currently in?

☐ Year 7 **[skip to question dem3]**
☐ Year 8 **[skip to question dem02a]**
☐ Year 9 **[skip to question dem02b]**
☐ Year 10 **[skip to question dem02c]**

dem02a Did you complete year 7 at this school?

☐ Yes
☐ No

dem02b Which years have you have completed at this school? *(tick all that apply)*

☐ Year 7
☐ Year 8
☐ I did not attend this school in the previous years

dem02c Which years have you completed at this school? *(tick all that apply)*

☐ Year 7
☐ Year 8
☐ Year 9
☐ I did not attend this school in previous years

Dem03 What sex are you?

☐ Male
☐ Female

Dem04 Are you of Aboriginal or Torres Strait Islander origin**?**

☐ Yes, Aboriginal origin
☐ Yes, Torres Strait Islander origin

☐ Yes, both Aboriginal and Torres Strait Islander origin

☐ No

Dem05 Are you of any other ethnic, cultural or national origin?

☐ No **[continue to question dem06]**

☐ Yes

Dem05a Which ethnic, cultural or national origin are you?

Please type your answer in the text box below

```



```

Dem06 Do you speak a language other than English at home?

☐ No **[continue to question dem07]**

☐ Yes

Dem06a What other language do you speak at home?

Please type your answer in the text box below

```



```

Dem07 What is the postcode where you usually live? ☐☐☐☐

Dem08 How much pocket money did you receive last week from unpaid employment? (I.e. chores around the house)

☐ $0, I didn't receive any pocket money in the last week

☐ Less than $5

☐ $5 to $15

☐ $16 to $30

☐ More than $30

Dem09 How much money did you earn last week from paid employment? (i.e. paper route or working at McDonalds)

☐ $0, I didn't receive any money in the last week from paid work

☐ Less than $30

☐ $30 to $50

☐ $51 to $80

☐ More than $80

These questions ask about your goals and plans for the future

Statements		Never true	True some of the time	True most of the time	True all of the time
IR_GA 01	I have goals and plans for the future	☐	☐	☐	☐
IR_GA 02	I plan carry on and finish year 12	☐	☐	☐	☐
IR_GA 02	I plan to go to university or TAFE or do some other training after high school	☐	☐	☐	☐

These next questions about your thoughts and how you find help

Statements		Never true	True some of the time	True most of the time	True all of the time
IR_PS 01	I know where to go for help with a problem	☐	☐	☐	☐
IR_PS 02	I try to work out my problems by talking or writing about them	☐	☐	☐	☐
IR_PS 03	When I need help I find someone to talk with	☐	☐	☐	☐
IR_SE 01	I can do most things if I try	☐	☐	☐	☐
IR_SE 02	I can work with someone who has different opinions to mine	☐	☐	☐	☐
IR_SE 03	I can work out my own problems	☐	☐	☐	☐
IR_SE 04	There are many things I do well	☐	☐	☐	☐

Statements		Never true	True some of the time	True most of the time	True all of the time
IR_E0 1	I feel bad when someone gets their feelings hurt	☐	☐	☐	☐
IR_E0 2	I try to understand what other people go through	☐	☐	☐	☐
IR_E0 3	I try to understand what other people feel and think				

Statements		Never true	True some of the time	True most of the time	True all of the time
IR_CC01	I enjoying working with other students my age	☐	☐	☐	☐
IR_CC02	I can stand up for myself without putting others down	☐	☐	☐	☐
IR_SA01	There is a purpose to my life	☐	☐	☐	☐
IR_SA02	I understand my moods and feelings	☐	☐	☐	☐
IR_SA03	I understand why I do what I do	☐	☐	☐	☐

These questions ask you about your friends

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_PC0 1	I have at least one friend who really cares about me	☐	☐	☐	☐
ER_PC0 2	I have at least one friend who talks with me about my problems	☐	☐	☐	☐
ER_PC0 3	I have at least one friend who helps me when I'm having a hard time	☐	☐	☐	☐
ER_Ps0 1	My fiends get into a lot of trouble	☐	☐	☐	☐
ER_Ps0 2	My friends try to do what is right	☐	☐	☐	☐
ER_Ps0 3	My friends do well in school	☐	☐	☐	☐

These questions ask about parents or carers in your home

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_H S01	In my home there is a parent or some other adult who expects me to follow the rules.	☐	☐	☐	☐
ER_H S02	In my home there is a parent or some other adult who is interested in my school work	☐	☐	☐	☐
ER_H S03	In my home there is a parent or some other adult who believes that I will be a success	☐	☐	☐	☐
ER_H S04	In my home there is a parent or some other adult who talks with me about my problems	☐	☐	☐	☐
ER_H S05	In my home there is a parent or some other adult who always wants me to do my best	☐	☐	☐	☐

Statements	Never true	True some of the time	True most of the time	True all of the time
ER_H S06 In my home there is a parent or some other adult who listens when I have something to say	☐	☐	☐	☐

Statements	Never true	True some of the time	True most of the time	True all of the time
ER_HP0 1 I do fun things or go fun places with my parents or others	☐	☐	☐	☐
ER_HP0 2 I do things at home that make a difference (e.g. improve things)	☐	☐	☐	☐
ER_HP0 3 I help make decisions (decide what happens) with my family	☐	☐	☐	☐

These questions ask about teachers and other adults at your school

Statements	Never true	True some of the time	True most of the time	True all of the time
ER_SS 01 At my school there is a teacher or some other adult who really cares about me	☐	☐	☐	☐
ER_SS 02 At my school there is a teacher or some other adult who tells me when I do a good job	☐	☐	☐	☐
ER_SS 03 At my school there is a teacher or some other adult who listens when I have something to say	☐	☐	☐	☐
ER_SS 04 At my school there is a teacher or some other adult who believes I will be a success	☐	☐	☐	☐
ER_SS 05 At my school there is a teacher or some other adult who notices when I am not there	☐	☐	☐	☐
ER_SS 06 At my school there is a teacher or some other adult who always wants me to do my best	☐	☐	☐	☐

These questions ask about what you do in school

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_SP0 1	I do interesting activities at school	☐	☐	☐	☐
ER_SP0 2	At school, I help decide things like class activities or rules	☐	☐	☐	☐
ER_SP0 3	I do things at my school that make a difference (e.g. improve things)	☐	☐	☐	☐

These questions ask about adults outside your home and school

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_CS 01	Outside of my home and school there is an adult who really cares about me	☐	☐	☐	☐
ER_CS 02	Outside of my home and school there is an adult who tells me I do a good job	☐	☐	☐	☐
ER_CS 03	Outside of my home and school there is an adult who believes I will be a success	☐	☐	☐	☐
ER_CS 04	Outside of my home and school there is an adult who I trust	☐	☐	☐	☐
ER_CS 05	Outside of my home and school there is an adult who notices when I am upset about something	☐	☐	☐	☐
ER_CS 06	Outside of my home and school there is an adult who always wants me to do my best	☐	☐	☐	☐

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_Cp 01	I am part of a club, sports team, church group or am involved in another activity away from school	☐	☐	☐	☐

Statements		Never true	True some of the time	True most of the time	True all of the time
ER_Cp 02	Outside of my home and school I am involved in music, art, books and reading, sport or a hobby.	☐	☐	☐	☐
ER_Cp 03	Outside of my home and school I help other people	☐	☐	☐	☐

	Statements	Not True	Somewhat True	Certainly True
SD_01	I try to be nice to people. I care about their feelings	☐	☐	☐
SD_02	I am restless; I can not stay still for long.	☐	☐	☐
SD_03	I get a lot of head-aches, stomach-aches and sickness	☐	☐	☐
SD_04	I usually share with others, for example, CD's, games, food	☐	☐	☐
SD_05	I get very angry and often lose my temper	☐	☐	☐
SD_06	I would rather be alone than with people my own age	☐	☐	☐
SD_07	I usually do as I am told	☐	☐	☐
SD_08	I worry a lot	☐	☐	☐
SD_09	I am helpful if someone is hurt, upset of feeling ill	☐	☐	☐
SD_10	I am constantly fidgeting or squirming	☐	☐	☐
SD_11	I have one good friend or more	☐	☐	☐
SD_12	I fight a lot. I can make other people do what I want	☐	☐	☐
SD_13	I am often unhappy, depressed or tearful	☐	☐	☐
SD_14	Other people my own age generally like me	☐	☐	☐
SD_15	I am easily distracted, I find it difficult to concentrate	☐	☐	☐
SD_16	I am nervous in new situations. I lose confidence easily	☐	☐	☐
SD_17	I am kind to younger children	☐	☐	☐
SD_18	I am often accused of lying or cheating	☐	☐	☐
SD_19	Other children or young people pick on me or bully me	☐	☐	☐
SD_20	I often volunteer to help others (parents, teachers, children)	☐	☐	☐
SD_21	I think before I do things	☐	☐	☐
SD_22	I take things that are not mine from home, school, or elsewhere	☐	☐	☐
SD_23	I get along better with adults than people my own age	☐	☐	☐
SD_24	I have many fears, I am easily scared	☐	☐	☐
SD_25	I finish the work I am doing, my attention is good	☐	☐	☐
SPRT	Do you feel that you are a spiritual person?	☐	☐	☐

- **Students who responded *No* to question Dem04 skip to question Bul_01**
- **All other students continue to A_CC01**

Would you describe your Aboriginal Community in the following way? Please tick one answer for each question	A lot of the time	Sometimes	Not at all
A_CC01 My Aboriginal community is caring and supportive of me	☐	☐	☐
A_CC02 My Aboriginal community has high expectations of me	☐	☐	☐
A_CC03 My Aboriginal community encourages my participation and involvement	☐	☐	☐
A_CC04 My Aboriginal community provides opportunities for involvement	☐	☐	☐

A_CC05 How much do you feel involved in your local Aboriginal community?

☐ I feel strongly involved

☐ I feel moderately involved

☐ I feel a little involved

☐ I don't feel involved at all

A_Cul01 Do you feel connected to your Aboriginal Culture?

☐ Yes [continue to question **A_Cul02**]

☐ No [skip to question **A_EVT01**]

☐ Don't know [skip to question **A_EVT01**]

A_Cul02 Do you identify with a tribal group, a language, clan or mob?

☐ Yes

☐ No

☐ Don't know

For the next question, please tick all that apply.

A_EVT01 In the last 12 months, have you gone to any Aboriginal or Torres Strait Islander …

☐ Family gatherings

☐ Ceremonies

☐ Sports carnivals

☐ Festivals or carnivals involving arts, craft, music or dance

☐ Aboriginal or Torres Strait Islander organization events or meetings

☐ Special events or days

A_EVT02 In the last 12 months, how many of the above cultural events and activities have you gone to?
_____

A_EVT03 Do you feel that Aboriginal culture and events are valued by your school?

    ☐ Yes

    ☐ No

    ☐ Don't know

A_Rac_Sc Have you ever been treated unfairly because you are Aboriginal and/or Torres Strait Islander?

    ☐ Yes

    ☐ No

- **Students who responded *Yes* to question A_Rac_Sc answer the questions below (Rac_01 - Rac_09)**

How often are you treated unfairly because you are Aboriginal and/or Torres Strait Islander in each of the following situations... Please tick one answer for each question	**Never**	**Hardly ever**	**Sometimes**	**Often**	**Very Often**
Rac_01 At your part time job?	☐	☐	☐	☐	☐
Rac_02 By neighbours or when you are at somebody else's house?	☐	☐	☐	☐	☐
Rac_03 At school?	☐	☐	☐	☐	☐
Rac_04 While doing sport or other leisure activities?	☐	☐	☐	☐	☐
Rac_05 By the police or security personnel?	☐	☐	☐	☐	☐
Rac_06 By doctors, nurses or other staff at hospitals or at the doctors?	☐	☐	☐	☐	☐
Rac_07 By staff at restaurants, shops, in taxis or when getting any other services?	☐	☐	☐	☐	☐
Rac_08 By other people on the street, at shopping centres, sporting events or concerts?	☐	☐	☐	☐	☐
Rac_09 By other Indigenous people?	☐	☐	☐	☐	☐

Cult_Rac_Sc Have you ever been treated unfairly because you are from another ethnic, cultural or national background?

☐ Yes

☐ No

- **Students who responded *Yes* to question Cult_Rac_Sc answer the questions below (CultRac_01 - CultRac_08)**

How often are you treated unfairly because you are from another ethnic cultural or national background in each of the following situations... Please tick one answer for each question		Never	Hardly ever	Sometimes	Often	Very Often
CultRac_01	At your part time job?	☐	☐	☐	☐	☐
CultRac_02	By neighbours or when you are at somebody else's house?	☐	☐	☐	☐	☐
CultRac_03	At school?	☐	☐	☐	☐	☐
CultRac_04	While doing sport or other leisure activities?	☐	☐	☐	☐	☐
CultRac_05	By the police or security personnel?	☐	☐	☐	☐	☐
CultRac_06	By doctors, nurses or other staff at hospitals or at the doctors?	☐	☐	☐	☐	☐
CultRac_07	By staff at restaurants, shops, in taxis or when getting any other services?	☐	☐	☐	☐	☐
CultRac_08	By other people on the street, at shopping centres, sporting events or concerts?	☐	☐	☐	☐	☐

The next question is about harassment or bullying

Bullying is the repeated behaviour by a person or a group of people that is meant to cause distress, hurt or undue pressure. Bullying involves the abuse of power in relationships.

Bullying behaviour can be:

- *verbal* e.g. name calling, insults, threats
- *physical* e.g. hitting, tripping, spitting
- *social* e.g. ignoring, excluding
- *psychological* e.g. spreading rumours, hiding or damaging possessions, mean or nasty SMS and email messages

Harassment is any unwanted, unwelcome or uninvited behaviour which makes a person feel humiliated, intimidated or offended.

Please consider the definition above when you answer this question.	0 times	1 time	2-3 times	4 or more
Bul_ 01 During the past 12 months, how many times have you been harassed or bullied by another student or group of students from your school?	☐	☐	☐	☐

The next questions are about things that affect your health

smk01   Have you <u>ever</u> smoked even part of a cigarette?

  ☐   No **[skip to question smk05a]**

  ☐   Yes

smk02 Have you smoked a cigarette in the last four weeks?

  ☐   No **[skip to question smk04]**

  ☐   Yes

smk03 Have you smoked a cigarette in the last week?

  ☐   No **[skip to question smk04]**

  ☐   Yes

This question is about the number of cigarettes you have smoked during the last week.

Starting from yesterday please record the number of cigarettes that you smoked on each day of last week. If you didn't smoke any cigarettes on a day enter "0" into the box.

  smk03_Yest   _____

  smk03_2DA   _____

  smk03_3DA   _____

  smk03_4DA   _____

  smk03_5DA   _____

  smk03_6DA   _____

  smk03_7DA   _____

smk04   Where, or from whom, did you get your last cigarette?

  ☐   Parents gave it to me

  ☐   Brother or sister gave it to me

  ☐   Took from home without permission

☐   Friend gave it to me

☐   Got someone to buy it

☐   Bought it myself

☐   Other source

smk05   Do you think it is ok for you to smoke?

☐   No
☐   Yes

smk05a Do you think it would be OK for you to smoke? **[students who reported ever smoking will not receive this question]**

☐   No
☐   Yes

These questions ask about whether your parents/carer, think it is OK for you to smoke cigarettes.

smk06   Does your mother, father or carer smoke cigarettes?

☐   No
☐   Yes

smk06a Does your mother, father or carer think it is ok for you to smoke?

☐   No
☐   Yes

smk06b Do you have a brother or sister?

☐   No **[skip to question smk08]**
☐   Yes

These questions ask about whether your brother and/or sister smoke or think it is OK for you to smoke cigarettes.

smk07   Does your brother or sister smoke cigarettes?

☐   No
☐   Yes

smk07a Does your brother or sister think it is ok for you to smoke?

☐   No
☐   Yes

smk08   Do your friends smoke cigarettes?

☐   No

☐   Yes

smk08a Do your friends think it is ok for you to smoke?

☐   No
☐   Yes

smk09   Do you think that your health will be damaged if you smoke?

☐   No
☐   Yes

For each of the following statements regarding alcohol please tick the box that corresponds to your answer:

alc01   Have you <u>ever</u> had a drink of alcohol? E.g. *beer, wine* or *alcopops/pre-mix drinks* (do not count sips or tastes)

☐   No **[skip to question alc06a]**
☐   Yes

alc02   Have you had any alcoholic drinks, such as *beer, wine* or *alcopops/pre-mix drinks* in the <u>last four weeks?</u> (do not count sips or tastes)

☐   No **[skip to question alc06]**
☐   Yes

alc03   Have you had any alcoholic drinks, such as *beer, wine* or *alcopops/pre-mix drinks* in the <u>last week?</u> (do not count sips or tastes)

☐   No **[skip to question alc04]**
☐   Yes

This question is about the number of alcoholic drinks you had during the last week.

Starting from yesterday please record the number of alcoholic drinks that you had on each day of last week. If you didn't have any alcoholic drinks on a day enter "0" into the box.

alc03_Yest   _____

alc03_2DA   _____

alc03_3DA   _____

alc03_4DA   _____

alc03_5DA   _____

alc03_6DA   _____

alc03_7DA   _____

alc04   In the last **4 weeks**, how many times have you had 5 or more alcoholic drinks in a row?

☐ None
☐ Once
☐ Twice
☐ 3-6 times
☐ 7 or more times

alc05 Where, or from whom, did you get your last alcoholic drink?

☐ Parents gave it to me

☐ Brother or sister gave it to me

☐ Took from home without permission

☐ Friend gave it to me

☐ Got someone to buy it

☐ Bought it myself

☐ Other source

alc06 Do you think it is ok for you to drink alcohol?

☐ No
☐ Yes

alc06a Do you think it would be ok for you to drink alcohol? **[only students who reported never consuming alcohol will receive this question]**

☐ No
☐ Yes

These questions ask about whether your parents/carer, think it is OK for you to drink alcohol.

alc07 Does your mother, father or carer drink alcohol?

☐ No
☐ Yes

alc07a Does your mother, father or carer think it is ok for you to drink alcohol?

☐ No
☐ Yes

All students who tick YES at smk07b

These questions ask about whether your brother and/or sister drink alcohol or think it is OK for you to drink alcohol.

alc08 Does your brother or sister drink alcohol?

☐ No

☐   Yes

alc08a Does your brother or sister think it is ok for you to drink alcohol?

☐   No
☐   Yes

alc09 Do your friends drink alcohol?

☐   No
☐   Yes

alc09a Do your friends think it is ok for you to drink alcohol?

☐   No
☐   Yes

alc10 Do you think that your health will be damaged if you drink alcohol?

☐   No
☐   Yes

These questions ask about taking illegal drugs or pills.

drg01 Have you <u>ever</u> used or tried any illegal drug or pill?

☐   No **[if in Year 10 at DEC school skip to sex01] else [skip to act01]**
☐   Yes **[continue to question drg02]**

For each of the following statements regarding illegal drugs or pills please tick the box that matches to your answer:

How many times in the last month have you:

Substances	None	Once or twice	3-5 times	6-9 times	10-19 times	20-39 times	40 or more times
drg 02 Smoked or used marijuana/cannabis (grass, hash, dope, weed, mull, yarndi, ganga, pot, a bong, a joint)	☐	☐	☐	☐	☐	☐	☐
drg 03 Used any other illegal drug or pill to get "high", such as inhalants, hallucinogens (e.g. LSD, acid, trips), amphetamines (e.g. speed, ice), ecstasy, cocaine or heroin? **[if in year 10 continue to question sex01] else [skip to question pa01]**	☐	☐	☐	☐	☐	☐	☐

These questions ask about your sexual health practices. (Year 10 DEC students only)

sex01 Have you ever had sexual intercourse?

☐ No **[skip to question pa01]**

☐ Yes

sex02 Have you had sexual intercourse in the last year?

☐ No **[skip to question pa01]**

☐ Yes

sex03 When you had sex in the last year, how often did you use condoms?

☐ Always used condoms

☐ Sometimes used condoms

☐ Never used condoms

The following questions ask about your physical activity

pa01 In a usual week do you do any **ORGANISED** sport or games at school, before or after school, or on the weekend?*

(ORGANISED sport and games includes training, competition, school sport, fitness, dance or aerobics)

☐ No **[skip to question pa02]**

☐ Yes

pa01a Please think about a normal week and enter in the table below:

- the sports or games you usually do (including training),
- how many times per week you usually do them, and
- the usual amount of time you spend doing them

	Name of Sport/game	Number of times per week you usually do this sport or game	The usual amount of time you spend doing this activity each time you do it HOURS	The usual amount of time you spend doing this activity each time you do it MINUTES
P.E				
School Sport				
Sport or game 3				
Sport or game 4				
Sport or game 5				
Sport or game 6				
Sport or game 7				

pa02 In a usual week do you do any NON-ORGANISED sport or games at school, before or after school, or on the weekend?*

(NON-ORGANISED physical activities are not structured or formal, do not involve regular training or competition, do not have a coach and are not organised by an adult. For example, a walk, run, handball, skateboarding, surfing, DVD exercises, tossing a basketball, kicking a football with mates, dancing with friends etc.)

☐   No **[skip to question veg]**

☐   Yes

pa02a   Please think about a normal week and enter in the table below:

- Activities that you usually do,

- How many times each week you usually do them, and

- The usual amount of time you spend doing them

	Name of Sport/game	Number of times per week you usually do this sport or game	The usual amount of time you spend doing this activity <u>each time you do it</u> HOURS	The usual amount of time you spend doing this activity <u>each time you do it</u> MINUTES
Sport or game 1				
Sport or game 2				
Sport or game 3				
Sport or game 4				
Sport or game 5				
Sport or game 6				
Sport or game 7				

For the following questions regarding what you eat and drink each day please click the circle that matches your answer:

veg   **How many serves of vegetables do you usually eat each day?**

(One serve of vegetables is equal to one medium potato or 1/2 cup of cooked vegetables or 1 cup of salad vegetables. It does not include potato crisps or chips).

☐   Less than 1 serve

☐   1 serve

☐   2 serves

☐   3 serves

☐   4 serves

☐   5 serves

☐   6 serves or more

☐   I don't eat vegetables

fru   **How many serves of fruit do you usually eat each day?**

(One serve of fruit is equal to 1 medium sized piece of fruit (e.g. apple or banana), 2 pieces of smaller fruit (e.g. kiwi fruit or apricots) or 1 cup of diced pieces/canned fruit or 4 pieces of dried fruit).

☐ Less than 1 serve

☐ 1 serve

☐ 2 serves

☐ 3 serves

☐ 4 serves

☐ 5 serves

☐ 6 serves or more

☐ I don't eat fruit

You are almost finished the survey! These last questions ask what you thought about the survey.

Statements	All questions	Most questions	Only some questions	Hardly any questions
end 01 I understood the questions on this survey	☐	☐	☐	☐
end 02 I answered the questions on this survey honestly	☐	☐	☐	☐

PROGRAM GUIDE APPENDIX 3: PARENT SURVEY

HEALTHY SCHOOLS, HEALTHY FUTURES

Parent/Carer Survey

Please complete this survey or the online survey *within 2 weeks*.

All answers are confidential. Please circle the number that matches your answer or write in the space provided.

To do the survey online go to:
http://selectsurvey.hnehealth.nsw.gov.au/TakeSurvey.aspx?SurveyID=I230976

Q1.	Today's date	___ / ___ / 2011
Q2.	Are you male or female?	1. Male 2. Female
Q3.	What is your post code?	__ __ __ __

Q4. Are you of Aboriginal or Torres Strait Islander origin?

1. Yes, Aboriginal

2. Yes, Torres Strait Islander

3. Both Aboriginal and Torres Strait Islander

4. No

Q5. Do you identify as any other nationality (i.e. Canadian) or ethnicity (i.e. African-American)?

1. Yes (please specify)

_____

2. No

DO YOU HAVE MORE THAN ONE CHILD IN YEARS 7-10?

If so, please complete this survey for the child with the birthday closest to June 1

Q6.   What school does this child attend?   _____

Q7.   How long has this child been attending   Years   __ __   Months   __ __
           this school?

Q8.   Is this child Aboriginal or Torres Strait   1. Yes, Aboriginal
           Islander?
                                                        2. Yes, Torres Strait Islander

                                                        3. Both Aboriginal and Torres Strait Islander

                                                        4. No

For each of the following statements, please circle the corresponding number to indicate if you strongly agree, agree, are unsure, disagree or strongly disagree	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
Q9. My child feels safe and comfortable at school	1	2	3	4	5
Q10. My child feels valued at school	1	2	3	4	5
Q11. My child is encouraged to achieve high personal standards at school	1	2	3	4	5
Q12. Teachers support the development of my child's resilience by having positive relationships with him/her	1	2	3	4	5
Q13. I am encouraged to be actively involved in the life of the school	1	2	3	4	5
Q14. I know who to contact at school in relation to issues about my child	1	2	3	4	5
Q15. I am encouraged to share issues about my child's social and emotional wellbeing with staff at the school	1	2	3	4	5
Q16. I am confident that there is at least one member of staff who is responsible for the wellbeing of my child	1	2	3	4	5
Q17. Opportunities are provided for me to discuss concerns about my child's learning needs with school staff	1	2	3	4	5
Q18. I am able to use these opportunities to discuss concerns because their timing and their organisation suits me	1	2	3	4	5
Q19. The school encourages my child's participation in a range of activities, such as music, sport, debating, camps and excursions	1	2	3	4	5
Q20. My child feels confident that there is at least one school staff member who will listen to him/her	1	2	3	4	5
Q21. I am kept informed about policies which relate to parent/carer participation	1	2	3	4	5
Q22. My child is encouraged to participate in school decision making.	1	2	3	4	5

Q23.	The school has provides me with opportunities to be involved in school business, including decision making, curriculum and policy development	1	2	3	4	5
Q24.	The school curriculum provides opportunities for my child to acquire skills and knowledge in developing resilience	1	2	3	4	5
Q25.	I am happy with the student welfare program offered at the school	1	2	3	4	5
Q26.	I feel welcome when I visit the school	1	2	3	4	5
Q27.	The physical environment of the school is safe and secure	1	2	3	4	5
Q28.	Bullying and harassment is actively discouraged by school staff	1	2	3	4	5
Q29.	Aboriginal culture is valued in my child's school	1	2	3	4	5
Q30.	Participation in Aboriginal Cultural events (e.g. NAIDOC) is encouraged in my child's school	1	2	3	4	5
Q31.	I am able to contact the school to gain information about local mental health, counselling or referral services	1	2	3	4	5
Q32.	The school report system provides me with the information I need	1	2	3	4	5
Q33.	Addressing student resilience is important for improving student health and wellbeing	1	2	3	4	5
Q34.	Addressing the development of resilience in my child is a responsibility of my child's school	1	2	3	4	5
Q35.	It is important for schools to teach resilience to students as part of the school curriculum	1	2	3	4	5
Q36.	It is important that the school's physical and social environment supports the development of my child's resilience (for example school policies regarding bullying)	1	2	3	4	5

The next section asks questions about factors within your child's school that may impact on them.

The next section asks questions about the activities and events at your child's school. For each question, please circle the number that matches your answer or write in the space provided.

Q37.	I have received an invitation to participate in school activities this year	1. Yes	2. No

Q38. What events *have you attended* at your child's school (please circle all that apply)

1. Parent – Teacher meetings

2. Parent/Carer Committee meetings

3. Assemblies

4. Information sessions (e.g., information on new laptops)

5. Aboriginal Education Consultative Group meetings (AECG)

6. Special cultural events or days (e.g. NAIDOC Week or Harmony Day)

7. Plays or other productions

8. Year 7 introduction

9. Fundraisers

10. Presentation Days

11. Other (please specify)

_____

Q39. Over the past year, how many events have you attended at this school? _____

Q40. What events *would you like to attend* at your child's school (please circle all that apply)

1. Parent – Teacher meetings

2. Parent/Carer Committee meetings

3. Assemblies

4. Information sessions (e.g., information on new laptops)

5. Aboriginal Education Consultative Group meetings (AECG)

6. Special cultural events or days (e.g. NAIDOC Week or Harmony Day)

7. Plays or other productions

8. Year 7 introduction

9. Fundraisers

10. Presentation Days

11. Other (please specify)

_____

If you have any other comments regarding factors within your school community that contribute to the development of your child's resilience, please provide these comments below:

………

………

………

Thank you for taking the time to complete this survey.

*Please return **within two weeks** to your child's school or via reply-paid envelope provided.*

PROGRAM GUIDE APPENDIX 4: STAFF SURVEY

Office use only **ID __ __ __ __ __ __ __ __ __ __ __ __**

HEALTHY SCHOOLS, HEALTHY FUTURES STAFF SURVEY

XXXX High School

Please circle the number that matches your answer or use the provided space to write your answer.

Q1.	Today's date	_____ / _____ / 2011
Q2.	Are you female or male?	**1.** Male **2.** Female
Q3.	Are you Aboriginal or Torres Strait Islander?	**1.** Yes, Aboriginal **2.** Yes, Torres Strait Islander **3.** Both Aboriginal and Torres Strait Islander **4.** No
Q4.	What role do you have within the school?	**1.** Executive **2.** Teacher **3.** Teacher's aide **4.** Office administration **5.** Welfare **6.** AEO/AEA **7.** Librarian **8.** Technical Support **9.** Ground staff **10.** Maintenance **11.** Cleaner **12.** Other, please list _____
Q5.	How long have you worked at this school?	Years __ __ Months __ __

Q6.	On what basis are you currently employed with the school?	**1.** Full-time *(go to Q7)* **2.** Part-time *(go to Q6a)* **3.** Casual *(go to Q6a)* **4.** Temporary *(go to Q6a)* **5.** Itinerant *(go to Q6a)*
Q6a.	In the last month, on average, how many hours per week have you worked at this school?	_____ hours/week

For each of the following statements, please circle the number to indicate if you strongly agree, agree, are unsure, disagree, or strongly disagree.		Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q7.	I believe bullying and harassment among students in class and on school grounds is low.	1	2	3	4	5
Q8.	There are effective conflict resolution processes in place to deal with conflict between individuals and groups of students and staff.	1	2	3	4	5
Q9.	Student theft and damage incidents are effectively addressed.	1	2	3	4	5
Q10.	I am aware of school policies on issues such as diversity, bullying and harassment and anti-discrimination.	1	2	3	4	5
Q11.	Discrimination against students or staff is not tolerated in our school.	1	2	3	4	5

Question 12 is for Aboriginal staff only – if you are not Aboriginal please go to Question 13

Q12.	Have you ever been treated unfairly at school because you are Aboriginal?	**1.** Yes *(go to Q12a)* **2.** No *(go to Q13)*
Q12a.	How often are you treated unfairly at school because you are Aboriginal?	**1.** Hardly ever **2.** Sometimes **3.** Often **4.** Very Often

For each of the following statements, please circle the number to indicate if you strongly agree, agree, are unsure, disagree, or strongly disagree.	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q13. The school has provided me with opportunity to be involved in school business, including decision making, curriculum and policy development.	1	2	3	4	5
Q14. The school provides students and student groups with an opportunity to be involved in school decision making.	1	2	3	4	5
Q15. The school involves a diverse range of parents and carers in school business, including decision making, curriculum and policy development.	1	2	3	4	5
Q16. The school involves a diverse range of other community members (e.g. youth services, health workers) in school business, including decision making, curriculum and policy development.	1	2	3	4	5
Q17. Aboriginal culture is valued in my school.	1	2	3	4	5
Q18. Participation in Aboriginal community events (e.g. NAIDOC week) is encouraged in my school. *If Strongly Agree or Agree, go to Q19* *If Unsure, Disagree of Strongly Disagree, go to Q20*	1	2	3	4	5

		Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q19.	What Aboriginal community events are encouraged at your school (e.g. NAIDOC week)?	_____				
Q20.	Communication about key school information reaches me.	1	2	3	4	5
Q21.	Email is an effective form of communication within my school.	1	2	3	4	5
Q22.	There is a regular exchange of information between families, the local community and the school.	1	2	3	4	5
Q23.	A wide range of students have expressed to me a sense of belonging to our school.	1	2	3	4	5
Q24.	Regular opportunities are provided for students to develop positive relationships with a range of other students in our school.	1	2	3	4	5
Q25.	Regular opportunities are provided for students and staff members to develop positive and meaningful professional relationships.	1	2	3	4	5
Q26.	Our students are encouraged to participate in school life because we offer a range of activities that take into account their interests.	1	2	3	4	5
Q27.	There is a person/s or service located **within** the school that I can talk to/use if I have professional difficulties.	1	2	3	4	5
Q28.	There is a person/s or service located **outside** the school that is accessible to me if I have professional difficulties	1	2	3	4	5
Q29.	A wide range of staff have expressed to me a sense of belonging to our school.	1	2	3	4	5
Q30.	Opportunities for all staff to socialise together are available.	1	2	3	4	5
Q31.	I feel safe and comfortable at our school.	1	2	3	4	5
Q32.	I feel valued in our school.	1	2	3	4	5
Q33.	My skills and expertise are acknowledged, valued and utilized by the executive team at our school.	1	2	3	4	5

		Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q34.	The executive team at our school is concerned about supporting my mental wellbeing.	1	2	3	4	5
Q35.	There is a culture of positive collaboration amongst the staff at our school.	1	2	3	4	5
Q36.	Opportunities are provided for me to undertake professional development relevant to my needs.	1	2	3	4	5
Q37.	There is a recognition and reward process for staff in our school.	1	2	3	4	5
Q38.	I receive feedback on my professional skills at this school.	1	2	3	4	5
Q39.	There is a school staff room which provides me a space to relax.	1	2	3	4	5
Q40.	Opportunities exist for me to vary my role and approach within the school.	1	2	3	4	5
Q41.	There are opportunities for staff to act in leadership positions around mental health and wellbeing issues.	1	2	3	4	5

Questions Q42 to Q56b are to be completed by teaching staff. **If you are not a teacher, please go to Question 57**		Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q42.	I encourage parents/carers to communicate with me about any concerns for their child's health and wellbeing.	1	2	3	4	5
Q43.	As a teacher I ensure that students in my classes are given the opportunity to achieve success.	1	2	3	4	5
Q44.	I believe that as a teacher I have a responsibility to support the social and emotional wellbeing of my students.	1	2	3	4	5
Q45.	Student skills and knowledge regarding social and emotional wellbeing are appropriately represented in the curriculum in which I work.	1	2	3	4	5

Questions Q42 to Q56b are to be completed by teaching staff. **If you are not a teacher, please go to Question 57**	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Q46. Student's cultural background is appropriately represented in the curriculum in which I work.	1	2	3	4	5
Q47. I use a variety of teaching methodologies, pedagogical strategies and assessment practices which cater for a wide range of learning styles.	1	2	3	4	5
Q48. The school provides opportunities for me to undertake professional development in the learning and teaching of cultural diversity.	1	2	3	4	5
Q49. I believe that building positive relationships with my students is fundamental to effective teaching and learning.	1	2	3	4	5

Q50.	Are you aware that the NSW Aboriginal Education Consultative Group Inc (NSW AECG) is the peak Aboriginal education community advisory group to the Department of Education and Communities? **DEC schools only**	**1.** Yes	**2.** No
Q51.	Are you aware of the local Aboriginal Education Consultative Group (AECG) within your community?	**1.** Yes *(go to Q52)* **2.** No *(go to Q53)* **3.** No local AECG *(go to Q53)*	

Q52. What are the ways that your local Aboriginal Education Consultative Group (AECG) helps Aboriginal students in your school?			
a.	Interface between schools and the community	**1.** Yes	**2.** No
b.	Support network for parents and carers	**1.** Yes	**2.** No
c.	Facilitate Aboriginal parent engagement	**1.** Yes	**2.** No
d.	Facilitate Aboriginal staff recruitment	**1.** Yes	**2.** No
e.	Provide advice to develop and localise curriculum related to Aboriginal peoples	**1.** Yes	**2.** No
f.	Other (please list):_____	**1.** Yes	**2.** No

Q53.	Are you aware of the Aboriginal Education and Training policy?	**1.** Yes	**2.** No
Q54.	Do you think the Aboriginal Education and Training Policy has been effectively implemented at your school?	**1.** Yes	**2.** No

Q55.	Have you invited local Aboriginal Community members into your classroom to tell stories (excluding AEOs/AEWs, in class tutors or paid Aboriginal staff or other workers)	**1.** Yes *(go to Q56)* **2.** No *(go to Q55a)*
Q55a.	Can you please indicate why you have not invited Aboriginal Community members into your classroom?	**1.** Not confident **2.** No time **3.** Do not know who to ask **4.** Not applicable to my subject **5.** Other (please list) _____
Q56.	Do all of your Aboriginal students have Personalised Learning Plans (PLP)?	**1.** Yes *(go to Q56a)* **2.** No *(go to Q57)* **3.** I do not teach any Aboriginal students *(go to Q57)*

Q56a. Who has been involved in the development of your Aboriginal students' Personalised Learning Plans (PLP)?			
a.	Student	**1.** Yes	**2.** No
b.	Parent/Carer	**1.** Yes	**2.** No
c.	Other person nominated by student	**1.** Yes	**2.** No
d.	AEO/AEW	**1.** Yes	**2.** No
e.	Year Advisor	**1.** Yes	**2.** No
f.	Other (please list):	**1.** Yes	**2.** No
g.	Don't know	**1.** Yes	**2.** No

Q56b.	How often are your Aboriginal students' Personalised Learning Plans (PLP) reviewed?	1. Monthly 2. Termly 3. Each semester 4. Annually 5. Unsure

Q57. *If you have any other comments regarding factors contributing to the health and wellbeing of the school community please provide below:*

……

……

……

……

……

……

Thank for you taking the time to complete this survey

PROGRAM GUIDE APPENDIX 5: SCHOOL ENVIRONMENT SURVEY Form A (Curriculum): Purpose, resilience definition and questions

Purpose

As part of the Healthy Schools, Healthy Futures project we are conducting some interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience. In this interview you will be asked about the strategies that are implemented within the Curriculum.

Resilience Definition

When asked about your school's resilience strategies please consider these definitions of resilience.
General definition: the ability to bounce back from a negative event or experience
Resilience can also be described as a social and emotional wellbeing, wellbeing, mental health (as opposed to mental illness) or mental wellbeing.
There are a number of characteristics that can contribute to being resilient.
Internal resilience characteristics: self-efficacy, empathy, problems solving, self-awareness, goals and aspirations, communication and cooperation.
External resilience characteristics: meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers

Resilience Curriculum questions

Many teachers will teach resilience in some form or another, often informally or incidentally through the teaching methods used, such as creating opportunities to engage in group work and discussions that build communication and co-operation skills, or learning that focuses on problem solving. This makes an important contribution to building resilience, but is not the focus of this interview.

1. Has there been any formal or specific curriculum content that addresses resilience for any Year Group (Year 7 to Year 10), for your Key Learning Area (KLA), within the last 12 months, that is during 2011? (record response in the first table)

If NO, that is the end of the interview

If YES, I'll ask you about the resources used and hours of content taught for each Year (complete the second table for this KLA)

2. What are the names of any resilience resources, programs or activities that were used (e.g. MindMatters, SenseAbility), for each Year Group? You may have used entire modules or just part thereof. You may not have used any.

3. Can you please estimate the total number of hours that resilience content featured, for each school Year? This may be easier to estimate in terms of lessons, or parts of lessons, then we can convert to hours (record to the nearest hour, for less than one hour record as one hour).

Healthy Schools, Healthy Futures School Environment Survey (2012)

Recording Form A – Curriculum content that addresses resilience

(For Head Teachers each KLA, Principal to review completed form. Estimated interview duration 5 mins to 1 hour)

School name:……………………………………………………..   Interviewer:……………………………………………….

Key Learning Area	Participant name and position (please indicate if a KLA is not applicable for this school)	Interview date	Any formal resilience content in lessons for any Year (7 to 10)? No- end of interview Yes – complete details in second table
Visual arts			
PDHPE			
Mathematics			
Science			
English			
Languages Other Than English (LOTE)			
Technology			
Music			

History			
Geography			
Life Skills			
Religious Education (CSO only)			
Other			
Other			
Other			

Complete separate table for each KLA where some resilience content is taught

KLA (insert relevant KLA)	Name of resilience resources, programs or activities implemented for this Year (e.g. MindMatters, SenseAbility…which modules) (If no content for a Year, put N/A) (If same resources as for previous Year, write 'as above')	Estimate total hours of resilience content for this Year (to nearest hour, less than one hour record as one hour) Write 0 if not content for this Year
Year 7		
Year 8		
Year 9		

Year 10		

Complete separate table for each KLA where some resilience content is taught

KLA (insert relevant KLA)	Name of resilience resources, programs or activities implemented for this Year (e.g. MindMatters, SenseAbility…which modules) (If no content for a Year, put N/A) (If same resources as for previous Year, write 'as above')	Estimate total hours of resilience content for this Year (to nearest hour, less than one hour record as one hour) Write 0 if not content for this Year
Year 7		
Year 8		
Year 9		
Year 10		

KLA (insert relevant KLA)	Name of resilience resources, programs or activities implemented for this Year (e.g. MindMatters, SenseAbility…which modules) (If no content for a Year, put N/A) (If same resources as for previous Year, write 'as above')	Estimate total hours of resilience content for this Year (to nearest hour, less than one hour record as one hour) Write 0 if not content for this Year

Complete separate table for each KLA where some resilience content is taught

KLA (insert relevant KLA)	Name of resilience resources, programs or activities implemented for this Year (e.g. MindMatters, SenseAbility…which modules) (If no content for a Year, put N/A) (If same resources as for previous Year, write 'as above')	Estimate total hours of resilience content for this Year (to nearest hour, less than one hour record as one hour) Write 0 if not content for this Year
Year 7		
Year 8		
Year 9		

KLA (insert relevant KLA)	Name of resilience resources, programs or activities implemented for this Year (e.g. MindMatters, SenseAbility…which modules) (If no content for a Year, put N/A) (If same resources as for previous Year, write 'as above')	Estimate total hours of resilience content for this Year (to nearest hour, less than one hour record as one hour) Write 0 if not content for this Year
Year 10		

School Environment Survey Recording Form B (Strategies outside of curriculum): Purpose and resilience definition

Purpose

As part of the Healthy Schools, Healthy Futures project we are conducting some interviews with school staff. The purpose of the interviews is to find out about the strategies that your school has in place to increase student resilience. In this interview you will be asked about some strategies that are outside of the formal curriculum.

Resilience Definition

When asked about your school's resilience strategies please consider these definitions of resilience

General definition: the ability to bounce back from a negative event or experience.

Resilience can also be described as social and emotional wellbeing, wellbeing, mental health (as opposed to mental illness) or mental wellbeing.

There are a number of characteristics that can contribute to being resilient:

Internal resilience characteristics: self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, communication and cooperation

External resilience characteristics: meaningful participation in school/community/home, school/community/home support, caring peer relationships and pro-social peers.

Healthy Schools, Healthy Futures School Environment Survey (2012)

Recording Form B - Addressing resilience outside of curriculum

School name:……………………………………………………….. **Interviewer:**………………………………………….

Participant position	Participant name	Interview date	Sections to answer/contribute to (estimated duration)
Head Teacher Welfare			Sections 1 to 6 (60- 90 mins)
Year Advisor - 7			Sections 1 and 2 (for their Year) (20-45 mins)
Year Advisor - 8			Sections 1 and 2 (for their Year) (20-45 mins)
Year Advisor- 9			Sections 1 and 2 (for their Year) (20-45 mins)
Year Advisor- 10			Section 1 (for their Year) (20-45 mins)

Designated Aboriginal contact person			**Sections 1 to 3 (focussing on strategies for Aboriginal students) (30-45 mins)**
Principal (final interview)			**Sections 7 to 10, plus review information in other sections and Form A (60 mins)**

Section 1. Resilience programs implemented within the school (HT Welfare, Year Advisors (for their Year), designated Aboriginal contact person (for programs focused on Aboriginal students).

This section asks about any programs or strategies that your school has had in place over the past 12 months that aim to increase the resilience of students. That is, the specific content focus for at least part of the program is on one or more of the resilience domains. Programs may be implemented as part of roll call, pastoral care or DEAR periods, or through school camps or excursions. You may or may not use available resilience programs (e.g. SenseAbility; Resourceful Adolescent Program, You Can Do It!).

Remember, this question does NOT include formal resilience content within the curriculum.

Do you have any programs or strategies that apply?

If Yes, for each program or strategy please provide:

1. The name

2. The aim or expected outcome

3. The target group/s

4. The duration of the program - and specifically the duration of the part of the program with a specific focus on resilience

5. The main activities implemented as part of the program/strategy (specifically the activities that focus on resilience)

6. If you have any partners involved in the delivery of the program/strategy

If another staff member has already nominated programs, you may be able to add programs, or add information about the ones that have been mentioned.

NOTE to interviewer: Complete a separate table for each program – this will involve copying the table for each new program.

Complete a separate table for each program

1. Program name Also include name/s of staff contributing the information e.g. RAP (contributed by A Smith)	
2. Aim of program? Expected outcome?	
3. Target group	☐Whole school (Year 7-10) ☐Aboriginal students ☐ All Year 7 ☐All Year 8 ☐All Year 9 ☐All Year 10 ☐Other student subgroup/s (specify)…………………………………………………………………………………………………….
4. Program duration (and duration specifically focused on resilience content)	Number of sessions …………and Time per session: …………hours/minutes. Estimated total time (to nearest hour)…………… Estimated duration focused on resilience content (to nearest hours……………………..
5. Main activities implemented as part of this program (ensure include activities	*Program activities (list activities implemented as part of program)*

that focus on resilience)		
6. Program partners	*Please list current partners in the delivery of this program (if any):*	
Comments: Explain how the program focuses on resilience - which components/topics specifically address resilience (include note of whether support documents provided and their title).		

Complete a separate table for each program

2. Program name Also include name/s of staff contributing the information e.g. RAP (contributed by A Smith)	
2. Aim of program? Expected outcome?	
3. Target group	☐Whole school (Year 7-10) ☐Aboriginal students

	☐ All Year 7 ☐All Year 8 ☐All Year 9 ☐All Year 10 ☐Other student subgroup/s (specify)…….
4. Program duration (and duration specifically focused on resilience content)	Number of sessions …………and Time per session: …………hours/minutes. Estimated total time (to nearest hour)…………… Estimated duration focused on resilience content (to nearest hours……………………..

5. Main activities implemented as part of this program (ensure include activities that focus on resilience)	*Program activities (list activities implemented as part of program)*	

6. Program partners	*Please list current partners in the delivery of this program (if any):*

Comments: Explain how the program focuses on resilience - which components/topics specifically address resilience (include note of whether support documents provided and their title).

Section 2: Strategies to enhance external resilience. (HT Welfare, Year Advisors, designated Aboriginal contact person)

This section asks about the strategies or programs your school has had in place over the past 12 months that could enhance external resilience. This includes rewards and recognition programs, peer support and peer mentoring programs, or student empowerment programs.

Does your school have any of the following types of strategies or programs: [for Year Advisors add 'for Year X', and for designated Aboriginal Contact person add 'specifically aimed at Aboriginal students'.]

- Rewards and recognition strategies or programs?

- Peer support/peer mentoring strategies or programs?

- Student empowerment strategies or programs?

For each strategy or program please:

1. Tell me the name

2. Is the target group/s all students in Years 7 to 10, or specific student subgroups (specify e.g. whole Year group, particular Year/gender groups, Aboriginal students or at-risk students)

3. Provide a description: include the aim, main activities implemented; if you have any partners involved.

If another staff member has already nominated strategies in their interview, you may be able to add strategies, or add information about the strategies that have been mentioned.

Strategy name Use a new line and complete 2 and 3 for each strategy) If no strategies if this type write N/A Also include names of staff contributing the information (e.g. contributed by A Smith)	2. Target group/s		3. Strategy description -Aim, main activities, any partners -other comments
	All students Years 7 to 10	Student sub groups (nominate)	
Rewards and recognition programs			
Peer Support/Peer Mentoring Programs			

Student empowerment programs			
Other strategies to enhance external resilience			

Section 3: Strategies to ensure the school's environment is safe and supportive. (HT Welfare, designated Aboriginal contact person)

This section asks about the strategies or programs your school has had in place over the past 12 months to ensure that the school's environment is safe and supportive. These can include anti-bullying strategies, Aboriginal cultural awareness strategies, anti-racism strategies, and student led beautification strategies.

Does your school have any of the following types of programs or strategies: [For designated Aboriginal Contact Person add 'specifically aimed at Aboriginal students']

- Anti-bullying programs or strategies?
- Aboriginal cultural awareness strategies (could include acknowledgement of country, display of Aboriginal and Torres Strait Islander flags, and celebration of cultural events, Aboriginal and Torres Strait Islander murals within the school, dedicated Aboriginal and Torres Strait Islander Education cultural room)?
- Anti-racism strategies?
- Student led beautification strategies?

For each strategy please:

1. Tell me the name of the strategy

2. Is the target group/s for the strategy all students in Years 7 to 10, or specific student subgroups (specify e.g. whole Year group, particular Year/gender groups, Aboriginal students or at-risk students)

3. Provide a description: include mention of the aim, main activities implemented; if you have any partners involved, and if relevant, if there is content on bystander actions.

If another staff member has already nominated strategies in their interview, you may be able to add strategies, or to add information about the strategies that have been mentioned.

Strategy name **Use a new line and complete 2 and 3 for each strategy**) **If no strategies if this type write N/A** Also include names of staff contributing the information (e.g. contributed by A Smith)	**2. Target group/s**		**3. Strategy description** **-Aim, main activities, any partners, does it have a section on bystander actions (if relevant)** **-other comments**
	All students Years 7 to 10	**Student sub groups (nominate)**	
Anti-bullying programs or strategies			
Aboriginal Cultural awareness strategies			
Anti-racism programs or strategies			

Student led beautification strategies			
Other strategies to make environment safe and supportive			

Section 4. Local community group promotion and engagement (HT Welfare)

This section asks about whether the school has any community organisations/groups that are promoted within your school or engaged with your school.

Promotion can include having information accessible that lets students know about the group or how to make contact. This could be through newsletters or noticeboards.

Engagement includes having a representative from the group come into the school. This could be to make presentations to students or to run a program. You may or may not have a formal partnership with the group.

Does your school promote or engage with any of the following community organisations/groups?

- Charity groups (e.g. Salvation Army, Samaritans, Lions/Rotary Clubs)
- Church groups
- Sporting groups
- Police
- Aboriginal Community groups, AECGs.

If Yes, for each organisation/group you will be asked for:

1. The name

2. The target group/s of students that the organisation is involved with or promoted to (e.g. whole of school, sub group of students)

3. A description of what the organisation/group does within the school and how they are promoted/what this is trying to achieve

If another staff member has already provided information, you may be asked to see if you can add to it.

Organisation type	1. Any organisation of this type promoted to students or engaged with school?		2. If Yes to 1 or 2, For each organisation - Name the organisation - Describe how promoted, which students promoted to, how often - Describe how engaged with school, which students engaged with, how often -
	No	**Yes, promoted, Yes engaged,** **Yes, both**	
Charity			
Church			
Sporting			
Police			

Aboriginal community Groups			
Other			

Section 5. Health and community service promotion, engagement and access (HT Welfare)

This section asks whether the school has any strategies in place to promote health and community services to students, to engage these services with the school, or arrangements in place to assist students to access these services.

Promotion of a service can include having information accessible that lets students know what the service does and how to make contact. This could be through newsletters, noticeboards etc.

Engagement of a service can include having a representative of the service visit the school. This could be to make a presentation to students or to staff.

Arrangements within the school that assist students to access the service could include having a service located within the school, or allowing students to attend in school time without being marked absent.

Does your school promote, engage, or have strategies in place to facilitate access to any of the following types of services, either for all students or student subgroups?

- Local Health Services
- Local Youth Services
- Local Community Health Services
- Local Child and Adolescent Mental Health Services
- Aboriginal Medical Service
- Local Aboriginal Health Services
- Any other local health and community services

If your school does promote, engage or have arrangements in place, can you name the service, and describe how it is promoted (to whom, how often), and arrangements to make access to the service easier.

If No to Q1 for a service type, go to next service type. If Yes to Q1, progress to 2 and 3

Service type	1. Any services of this type promoted to students or engaged with school?		2. Arrangements in place to assist students to access this type of service?		3. If Yes to 1 or 2, For each service - Name the service/s - Describe how promoted, which students promoted to, how often - Describe how engaged with school, which students engaged with, how often -Describe arrangements in place to assist students to access service, which students are these arrangements for
	No	**Yes, promoted, Yes engaged,** **Yes, both**	**No**	**Yes**	
Health Services					
Youth Services					
Community Health					

Child and Adolescent Mental Health Services					
Aboriginal Medical Services					
Aboriginal Health					
Other					

Section 6. Strategies to increase parent involvement in school and home support for students (HT Welfare)

This section asks about any strategies that your school currently has in place to engage parents and to increase home support for students, and whether these have been used to provide parents with information on resilience in the last 12 months.

Have you used any of these strategies to engage parents in the past 12 months? If Yes, has the strategy been used to provide information on resilience to parents?. If Yes, describe how the strategy was used to provide resilience content to parents?

- Newsletters
- Parent/teacher nights
- Parent information sessions
- Additional parent events (specify)
- Other

Strategy	2. Use this this in last 12 months?		3. If Yes, has this strategy been used to provide information on resilience to parents in last 12 months?	4. If Yes, describe how strategy used to provide resilience content: - Who was targeted, all parents or subgroup (nominate)? - What was the content? - How frequent was the contact, how long was the session, what was mode of contact (e.g. for newsletter was it email or hard copy)? Comment/s
	No	**Yes**	No Yes	
Newsletters				
Parent/teacher nights				

Parent information sessions				
Additional parent events				
Other				

Section 7. Dedicated resources for strategies targeting student resilience (Principal)

This section asks about whether your school has dedicated resources (funds and people) to support strategies aimed at increasing student resilience?

	If Yes, provide detail/comment
Have any global or external funds been allocated to resilience support strategies in the last 12 months? **No** **Yes, global only** **Yes, external only** **Yes, both**	(Include ballpark total amount of funding; length of funding if external)
Has your school had any dedicated staff or teams to support strategies aimed at student resilience in the last 12 months?	(Include details of type of staff, their role , and ballpark FTE allocation to strategies aimed at increasing student resilience)

No. **Yes**	

Section 8. Teacher Professional Learning (TPL) in addressing student resilience (Principal)

This section asks about any TPL that staff within your school have been offered in addressing student resilience in the last 12 months, and the number of staff who have completed such TPL?

Have any staff been offered the following in the past 12 months?

- MindMatters Level 1
- MindMatters Level 2
- MindMatters: Teaching and Learning for Engagement and Focus
- Positive Behaviour for Learning
- Stronger Smarter
- Quality teaching pedagogy/framework
- Other TPL that addresses student resilience

1. If Yes, who was it offered to (e.g. all staff, all teachers, Year advisors, Head Teachers)

2. How many current staff received the TPL in the last 12 months, and can you estimate the total number of staff who have completed, even if not in past 12 months (estimate is OK)

3. Describe the TPL if it falls under 'other', other comments regarding the TPL

TPL	1. Offered to any staff in last 12 months?		2. If Yes, who was it offered to (e.g. all teachers, Year Advisors)	3. Number of staff completed in last 12 months (and total current staff who have completed, even .> 12 months ago)	4. Was it offered off site or on-site? Other comments? If 'other provide a description
	No	**Yes**			
MindMatters: Level 1					
MindMatters: Level 2					
MindMatters: Teaching and Learning for Engagement Focus Module					
Positive Behaviour for Learning					
Stronger Smarter					
Quality Teaching pedagogy/framework					

Other TPL addressing student resilience (please name and outline content in final column)				

Section 9. Staff mental health and wellbeing training (Principal)

This section asks about any training this has been offered to school staff to address their own mental health and well-being in the last 12 months, and the number of staff who have completed such training?

Have any staff been offered the following in the past 12 months?

- Mental Health First Aid
- MindMatters Staff Matters
- Other staff mental health and wellbeing training

3. If Yes, who was it offered to (e.g. all staff, all teachers, Year advisors, Head Teachers, non-teaching staff)

4. How many current staff who received the training in the last 12 months, and a cumulative total of staff who have completed, even if not in past 12 months (estimate is OK)?

5. Describe the training if it falls under 'other', or comments regarding the training

Training	1. Offered to any staff in last 12 months?*		2. If Yes, who was it offered to (e.g. all teachers, Year Advisors)		3. Number of staff completed in last 12 months (and total current staff who have completed, even .> 12 months ago)	4. Description (if 'other')/Comments
	No	Yes				
Mental Health First Aid						
MindMatters: Staff Matters Focus Module						

Other					

Section 10. Resilience mentioned within school plan (Principal)

The section asks about whether resilience is mentioned in the school plan, if so, where in the plan.

We would also like a copy of the plan (regardless of whether resilience is mentioned).

	1. Resilience mentioned?		2. If Yes, describe where in the plan resilience is mentioned?/ Comments
	Yes	**No**	
Is resilience mentioned within the current school plan?			

Thank you for taking the time to participate in the HSHF School Environment Survey

PROGRAM GUIDE APPENDIX 6: SCHOOL ACTION PLAN

<u>Healthy Schools, Healthy Futures School Action Plan 2012 – 2014</u>

DOMAIN: Curriculum, teaching and learning				
HSHF PROGRAM GOAL	**SCHOOL STRATEGY TO ACHIEVE GOAL**	**TIMEFRAME**	**RESPONSIBILITY**	**ACTIONED**
School has resilience lessons embedded within curriculum				
• 100% of students receive a minimum of 12 age appropriate resilience lessons. Lessons are to be of 45 minute duration (9 hours total), delivered in each year of school and across at least 3 KLAs (e.g. MindMatters curriculum resources)				
• 100% of students receive an additional 9 hours of non-curriculum resilience programs in each year of school (e.g. SenseAbility, Resourceful Adolescent Program, You Can Do It!)				
• 100% of Aboriginal students receive a resilience program in each year of school (e.g. Feeling Deadly Not Shame)				
• Resilience programs delivered to other sub groups of need (e.g. sub groups of students within the school with low resilience, mental health diagnoses, grief and loss issues) (Optional)				

DOMAIN: Ethos and environment				
HSHF PROGRAM GOAL	**SCHOOL STRATEGY TO ACHIEVE GOAL**	**TIMEFRAME**	**RESPONSIBILITY**	**ACTIONED**
School implements the following programs/practices to enhance external resilience				
• Rewards and recognition program implemented across the whole school				
• Peer support program/Peer mentoring program implemented across the whole school				
• Empowerment/leadership programs implemented across the whole school				
• Additional external resilience programs delivered to Aboriginal students (e.g. cultural leadership)				
School implements strategies to ensure the environment is supportive for all students				
• Evidence-based anti-bullying strategies/programs are implemented across the whole school (e.g. school-wide rules and sanctions (PBL) and safe places for particular student sub groups				
• Cultural awareness strategies implemented across the whole school (Acknowledgement of country, display of Aboriginal and Torres Strait Islander flags, Celebration of cultural events, Aboriginal and Torres Strait Islander murals in the school, dedicated Aboriginal and Torres Strait Islander Education cultural room)				

Effective pedagogy is used within learning environments to enhance student resilience				
• Teachers offered professional development in pedagogy in line with MindMatters Teaching and Learning for Engagement				

DOMAIN: Partnerships and services				
HSHF PROGRAM GOAL	**SCHOOL STRATEGY TO ACHIEVE GOAL**	**TIMEFRAME**	**RESPONSIBILITY**	**ACTIONED**

Local community organisations/groups/clubs promoted in school Relevant organisations/groups include (but not limited to): Salvation Army, Samaritans, Wesley Mission, Centacare, Lions/Rotary Clubs, Church groups, Police, Charity organisations, sporting clubs, Aboriginal students: Aboriginal Community, AECGs				
• Local community organisations/ groups/clubs students can participate in within the community promoted and engaged in school				
Ways to access the following health and community services promoted in school to students, parents and staff Relevant services include (but not limited to): Health Services , Youth Services, Community Health, Child and Adolescent Mental Health Services (for at risk students), Aboriginal Medical Services, Aboriginal Health				
• Health and community services are promoted and engaged in the school				
• Referral pathways to services promoted to the school community (including staff and parents)				
School implements strategies to increase parental involvement in school and school-based activities				
• School events implemented to engage parents (not including parent teacher nights, presentation and award events)				
• Effective school-parent communication strategies implemented (provided on regular basis via multiple methods)				
• School promotes strategies to address student resilience to parents (e.g. in parent newsletters)				

Appendix 6.2: Example of School Intervention Officer support

This template was developed to support implementation of intervention strategy 1, noted in Chapter 6, Table 1: Age-appropriate lessons (9h) on protective factors across a minimum of three Key Learning Areas (KLAs). The below completed example is for the KLA of English at one intervention school, for curriculum taught in Grades 7 to 10. School Intervention Officers offered to utilise this template with Head Teachers of KLAs to map opportunities for, and resources to support, inclusion of content relating to resilience protective factors into existing curriculum units, and to identify what general capabilities (specified in the Australian Curriculum) would be supported by the implementation of such content.

Resilience in English

HEALTHY SCHOOLS, *HEALTHY FUTURES*

R E S I L I E N C E - I N - S C H O O L S

Year	Topic	Resilience Characteristics	Resource	General Capabilities
7	Myths and Legends • Concepts of myths and legends • Student and group reflection	Problem Solving Empathy Self-Awareness	*SenseAbility,* Sense of Humour, Laughter School, P. 22 *MindMatters*, Dealing with Bullying and Harassment – Defining Moments, Warm Up Games P. 91 *Reachou*t, Flexible and Accurate Thinking P. 27, 28, 29	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding Ethical Behaviour
7	Multiculturalism • Concept of multiculturalism • Concepts of context (social, historical, situational, cultural)	Self-Awareness Empathy Problem Solving	*SenseAbility,* Sense of Belonging, Personal Reflection Task: Students create a map to Belonging. P. 16 *MindMatters Toolkit,* Opinion Metre, P. 55 *Reachout,* Connectedness and Reaching Out P. 39	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
7	Introduction to Film Analysis	Problem Solving	*MindMatters*, Enhancing Resilience 1, Making Agreements, Activity 1 Name Wave, Activity 2, Grouping, P.28	Critical and Creative Thinking
7	Introduction to the Media and Multimedia	Problem Solving Communication and Cooperation	*SenseAbility,* Essential Skills, Communication DVD Clip P. 80	Critical and Creative Thinking
7	Responding to Poetry • Consolidated Learning	Communication	*MindMatters*, Enhancing Resilience 1, Chasing Challenges Activity 3: Hoops game P. 33 Considering	Critical and Creative Thinking

Year	Topic	Resilience Characteristics	Resource	General Capabilities
	• Close analysis	And Cooperation Problem Solving	Identity and Culture, Activity 1 Talking About Identity and Culture P. 89	Personal and Social Capability Intercultural Understanding
7	Picture Books	Problem Solving Empathy	*MindMatters*, Loss and Grief Session 3 Reaching Out Reaching in Activity 1, How to Help P. 29	Critical and Creative Thinking
7	Cartoons and Comics	Self-Awareness Communication and Cooperation	*MindMatters*, Enhancing Resilience 1, Considering Identity and Culture, Activity2: Definitions P. 90 *SenseAbility,* Sense of Humour Activity, Laughter School, P. 22	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
7	*Bridge to Terabithia* • Theme: Difference and Diversity	Problem Solving Self -Awareness Empathy External Resilience	*MindMatters Toolkit* Opinion Metre P. 55 Values Walk P. 56 *SenseAbility* Sense of Belonging, Activity, Can I Join You, P. 22	Critical and Creative Thinking
7	Picture Books • *My Place* – Cultural Perspective • *My Girragundji* – Cultural Perspective	Problem Solving Empathy Self-Efficacy	Awareness of *MindMatters,* Community Matters Part B: Mental Health Issues and Strategies for Specific Cultural Groups Aboriginal and Torres Strait Islander P 37 *MindMatters* Enhancing Resilience 1, Considering Identity and Culture, P. 89 – 102 - Loss and Grief Session 3 Reaching Out Reaching in Activity 1, How to Help P. 29	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
7	Introduction to Drama	Problem Solving Self-Efficacy	*MindMatters* Enhancing Resilience 1, Making Agreements, Activities, 1, 2, 3 P. 28	Personal and Social Capability
7	The Giver • Is it better for all people to be alike or for people to be different? • What would happen of freedom of choice was taken away?	Problem Solving Self-Awareness	*MindMatters* Loss and Grief and Loss, Understanding. Activity 1 P. 22 *MindMatters Toolkit* Opinion Metre P. 55 Values Walk P. 56	Critical and Creative Thinking Personal and Social Capability Ethical Behaviour
7	Poetry • *I wish* • *My Country*	Problem Solving	*MindMatters*, Enhancing Resilience 1, Chasing Challenges Activity 3: Hoops game P. 33	Critical and Creative Thinking Personal and Social Capability

Year	Topic	Resilience Characteristics	Resource	General Capabilities
7	Wide Reading in Australian Literature with Emphasis on Aboriginal and Multicultural Experiences in Australia	Social Awareness Self-Awareness Empathy Problem Solving	*MindMatters,* Community Matters Part B: Mental Health Issues and Strategies for Specific Cultural Groups - Aboriginal and Torres Strait Islander P 37. *MindMatters* Enhancing Resilience 1, Considering Identity and Culture, P. 89 – 102; Loss and Grief Session 3 Reaching Out Reaching in Activity 1, How to Help P. 29; *MindMatters Toolkit,* Opinion Meter, P. 55 *SenseAbility,* Belonging*,* Personal Reflection Task: Students create a map to Belonging. P. 16 *Reachout,* Connectedness and Reaching Out P. 39	Intercultural Understanding Critical and Creative Thinking Personal and Social Capability
7	Responding to and Creating Short Stories	Problem Solving	*SenseAbility*, Essential Skills, Problem Solving DVD Clip 1 P. 58. *Reachout, Building Resilience in Young People,* Self-Efficacy Three Things, P.37. *MindMatters Toolkit*, Life raft. P. 41	Critical and Creative Thinking Personal and Social Capability
7	Understanding Film	Problem Solving	*MindMatters*, Enhancing Resilience 1, Making Agreements, Activity 1 Name Wave, Activity 2, Grouping, P.28	Critical and Creative Thinking
7	Television Scripts for Performance and Production	Problem Solving Communication and Cooperation	*SenseAbility,* Essential Skills, Communication DVD Clip P. 80. Activity 1: Role Play, P. 81	Critical and Creative Thinking
Stage 4	An Experience of Shakespeare • *A Midsummer Night's Dream*	Problem Solving Empathy Self-Awareness Self-Efficacy	*SenseAbility,* Sense of Humour, Activity: Laughter Class, P. 22 *SenseAbility,* Sense of Self Worth, Activity: I'm not perfect but.... P. 29	Critical and Creative Thinking Personal and Social Capability
Stage 4	*Holes* by Louis Sachar	Problem Solving Empathy Self-Awareness Self-Efficacy	*MindMatters*, Enhancing Resilience 1, Changes & Coping, Making Stories, P.67 *SenseAbility,* Essential Skills, Emotion Recognition, DVD Clip #1 P32 and Activity 1: What are they feeling? P. 33	Critical and Creative Thinking Personal and Social Capability
8	Survival of the Fittest • Background knowledge • Explicit quality criteria • Deep understanding • Survival Skills discussed at length	Problem Solving Self-Awareness Empathy Self-Efficacy Goals and Aspirations	*MindMatters Toolkit*, Life Raft, P. 41 *SenseAbility* Sense of Purpose, Task: Mapping Meaning in Your Life P. 17 *MindMatters* Loss and Grief, Understanding, Activity 1, Change P. 22	Critical and Creative Thinking Personal and Social Capability

Year	Topic	Resilience Characteristics	Resource	General Capabilities
			Activity 2 Grief Reactions, P. 24	
8	Personal Journey in text and film • Introduction Class Discussion	Problem Solving Self -Awareness Decision-making Goals and Aspirations	*SenseAbility* Sense of Future. Personal Reflection Task: Five Year Facebook P. 16	Critical and Creative Thinking Personal and Social Capability
8	*Misery Guts* - Novel Study • Engagement • Problematic Knowledge	Problem Solving Self-Awareness	*MindMatters* Loss and Grief, Reactions, Activity 1 Grief Reactions, P. 25 - Extension Activity P 27 *MindMatters* Toolkit Turn Around, P. 57	Critical and Creative Thinking Personal and Social Capability
8	Poetry • *Son of Mine* • *No More Boomerang*	Problem Solving, Self-Awareness	*MindMatters* Loss and Grief and Loss, Grief Reactions, P. 24 *SenseAbility,* Essential Skills. Life Problem Solving. DVD Clip #1 P 58 and Activity: Role Play, P. 58	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
8	Media – making a media product	Communication and Cooperation Problem Solving Self-Awareness	*SenseAbility,* Essential Skills, Communication DVD Clip P. 80	Critical and Creative Thinking Personal and Social Capability
8	Understanding Social Media	Problem Solving, Self-Awareness Self-Efficacy	*MindMatters* Dealing with Bullying and Harassment. Bodymapping, Activity 1, I remember, P. 23; Activity 2, Sharing and Comparing, P. 24 and Activity 3 Bullybodies, P. 24	Critical and Creative Thinking Personal and Social Capability Ethical Behaviour
8	Oral Presentation: Debating and Public Speaking	Problem Solving Communication and Cooperation	*SenseAbility,* Essential Skills, Communication Activity 2: Filters Role Play, P. 82 Activity 3: Loud Static. P. 83	Critical & Creative Thinking Personal & Social Capability
8	Drama Improvisation and Performance	Problem Solving	*SenseAbility,* Essential Skills, Communication Activity: Are you Listening, P. 85	Critical and Creative Thinking Personal and Social Capability
8	Wide Reading in Literature of Other Countries and Times with Emphasis on Myths and Legends	Problem Solving Empathy Self-Awareness	*SenseAbility,* Sense of Humour, Laughter School, P. 22 *MindMatters*, Dealing with Bullying and Harassment – Defining Moments, Warm Up Games P. 91 *Reachou*t, Flexible and Accurate Thinking P. 27, 28, 29	Personal and Social Capability

Year	Topic	Resilience Characteristics	Resource	General Capabilities
				Intercultural Understanding Critical and Creative Thinking Ethical Behaviour
8	Different Literacies – Tracing Ideas Through Non Fiction Film and Internet	Problem Solving Self-Awareness	*SenseAbility,* Essential Skills, Communication Activity: Technol-oh-gee, P. 84 DVD Clip P. 90; Sense of Future. Personal Reflection Task: Five Year Facebook P. 16	Personal and Social Capability Critical and Creative Thinking
9	Overcoming Adversity • Understanding adversity • Psychological, emotional and physical challenges • Concept of fears and phobias • Case studies of real life heroes • What does it take a human to overcome adversity • What does it take to be a true hero • Understanding disability	Empathy Goals and Aspirations Self-Awareness Self-Efficacy Problem Solving Help Seeking Communication and Cooperation	*SenseAbility,* Sense of Self Worth, Activity: My adjective P. 22 *MindMatters*, Enhancing Resilience 2, Coping, Activity: What do I mean by Stress? P.23 Stress Spotters P. 24 *Reachou*t, Positive Emotions P. 9, 10, 11	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding Ethical Behaviour
9	Soap Operas	Problem Solving Self-Awareness Communication and Cooperation	*MindMatters* Loss and Grief, Reaching Out, Reaching In, Activity 1: How to Help P.29 *MindMatters* Dealing with Bullying and Harassment, Bullying, How To, P. 57	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
9	*Across the Nightingale Floor*	Problem Solving Empathy Self-Awareness Self-Efficacy	*MindMatters Toolkit*, Life Raft, P. 41 - Loss and Grief and Loss. Grief reactions, P. 26 – 28 *SenseAbility,* Essential Skills. Life Problem Solving. Activity 2, Brainstorm Common Problems, P. 60	Critical and Creative Thinking Personal and Social Capability
9	Ballads and Sonnets	Problem Solving, Empathy Self-Awareness Self-Efficacy	*MindMatters* Loss and Grief, Loss, a Universal Experience. Activity 1, Change and Loss, P. 46 Activity 2 Feelings, P. 47 Categories of Loss, P. 48 *SenseAbility,* Essential Skills. Helpful Thinking, DVD Clip#1, P. 12 and Activity: Role Play, P. 15	Personal and Social Capability Critical and Creative Thinking

Year	Topic	Resilience Characteristics	Resource	General Capabilities
9	<u>Close Study of Text</u>	Problem Solving Empathy	*SenseAbility,* Sense of Control, Activity: Mandala, P. 32 Activity: How Can I deal With This, P. 33	Personal and Social Capability Critical and Creative Thinking
9	<u>Film-Making and Film Reviewing</u>	Problem Solving Empathy Communication and Cooperation	*MindMatters* Loss and Grief, Reaching Out, Reaching In, Activity 1: How to Help P.29; Dealing with Bullying and Harassment, Bullying, How To, P. 57	Personal and Social Capability Critical and Creative Thinking Intercultural Understanding
9	<u>Close Study of a Shakespearian Play</u>	Problem Solving Empathy Help Seeking	*MindMatters* Loss and Grief, Activity: Helping a Friend, P. 30 – 32 *SenseAbility,* Essential Skills Emotional Regulation: DVD Clip P. 32. Activity: What are they feeling, P. 33	Personal and Social Capability Critical and Creative Thinking Ethical Behaviour
Stage 5	<u>From Blonde to "The Blonde"</u>	Problem Solving Self-Awareness	*MindMatters Enhancing Resilience 2, Is it the Same for Boys & Girls, P. 57-59* *SenseAbility,* Essential Skills. Helpful Thinking, Activity: Our Special Guest, P. 14DVD Clip #3 P. 22	Personal and Social Capability Critical and Creative Thinking
10	<u>Human Rights</u> • Understanding human rights • Refugees • Global concerns • Cultural understandings	Communication and Cooperation Self-Awareness Self-Efficacy Empathy Help-seeking Problem Solving Goals and Aspirations	*SenseAbility,* Belonging. Activity: can I join You? P. 22 *MindMatters,* Community Matters – Chapter 3 Diversity and well-Being *Reachou*t, Engagement P. 14, 15, 16, 17	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding Ethical Behaviour
10	*<u>Lord of the Flies</u>* (Unit based on resilience factors)	Self-Awareness Self-Efficacy Help Seeking Goals and Aspirations Problem Solving Empathy Communication and Cooperation	*SenseAbility* Sense of Control, Activity: Mandala, P. 32 Activity: How Can I deal With This, P. 33 *SenseAbility* Sense of Future. Activity: Time Traveller, P. 32	Critical and Creative Thinking Personal and Social Capability

Year	Topic	Resilience Characteristics	Resource	General Capabilities
10	Relationships and Multicultural Perspectives	Problem Solving Empathy Self-Awareness	*SenseAbility,* Essential Skills, Emotion Recognition and Regulation, DVD Clip #1 P. 32 Activity 4: Too much too long, P. 36	Critical and Creative Thinking Personal and Social Capability Intercultural Understanding
10	Comparative Study of Text	Problem Solving Empathy Self-Awareness Self-Efficacy	*MindMatters* Loss and Grief, Grief is Normal, Activity: Change and stress, P.50 Normal Grief Reactions, P. 52 *SenseAbility,* Essential Skills, Emotion Recognition, Activity, Face off, P. 34	Personal and Social Capability Critical and Creative Thinking
10	Film and Representation in Australia	Problem Solving Empathy	*MindMatters* Loss and Grief, Activity: Types of Support P. 33 – 37 *SenseAbility,* Essential Skills Emotional Regulation: Activity: Too much, too long, P. 36	Personal and Social Capability Critical and Creative Thinking Intercultural Understanding
10	Practical English – Responding and Composing for Different Occasions.	Problem Solving	*MindMatters*, Enhancing Resilience 2. Activity: Hot air Goals, Pl 81 - 83	Personal and Social Capability Critical and Creative Thinking

This document has been designed to provide some additional resources to assist with emphasising resilience characteristics through existing units and lessons. Your school project officer, [insert name], can source the recommended materials, package them together and email to you if there are units listed here that you are interested in. Please contact [insert name] by email on [insert name]@hnehealth.nsw.gov.au, by mobile on [insert number] or by phone on [insert number].

HEALTHY SCHOOLS, *HEALTHY FUTURES*
R E S I L I E N C E - I N - S C H O O L S

Appendix 6.3: Example Annual School Action Plan to address intervention strategies endorsed by the school executive
Intervention schools were supported by School Intervention Officers to develop action plans (implementation support strategy number 4c, Chapter 6, Table 1) to implement the 16 broad intervention strategies for each year of the intervention.

[Insert name of high school] /

Healthy Schools, Healthy Futures

School Action Plan 2014

Principal/HSHF Coordinator Signature: [insert signature]				Date: [insert date]
Curriculum, Teaching and Learning				
GOAL	**STRATEGY**	**TERM**	**RESPONSIBILITY**	**REQUIRED RESOURCES**
Year 10 students receive 9 hours of resilience lessons in the classroom per year, spread across at least three KLAs (teaching the skills of resilience through classroom programs and whole school programs)	Whole-school lessons under development. HSHF student team actively involved in developing and delivering lesson content.	2	• HSHF student team • [insert staff name]	
Year 7-9 students receive 9 hours of resilience lessons in the classroom per year, spread across at least three KLAs (teaching the skills of resilience through	Whole-school lessons under development. HSHF student team actively involved in developing and delivering lesson content.	2	• HSHF student team • [insert staff name]	

classroom programs and whole school programs)				
Year 10 students receive 9 hours of non-curriculum resilience programs per year (building resilience into school camp activities, welfare days, school events etc.)	Student empowerment forums to continue	1-4	• HSHF student team • [insert staff name]	
	Brainstorm Productions presentation	1-4	• [insert staff name]	
	Youth Week half-day school event – Our Voice, Our Impact	1	• [insert staff name]	
Year 7-9 students receive 9 hours of non-curriculum resilience programs per year (building resilience into school camp activities, welfare days, school events etc.)	Year 7 3-day camp	1		
	Student empowerment forums to continue	1-4	• HSHF student team • [insert staff name]	
	Brainstorm Productions presentations (one per term)	1-4	• [insert staff name]	
	Youth Week half-day school event – Our Voice, Our Impact	1	• [insert staff name]	
An Aboriginal focused resilience program is in place for Year 10 students (such as SistaSpeak, BroSpeak etc.)	Kayu Digi-Media Program with Hunter TAFE	1-4	• Aboriginal Education	
	Junior AECG	1-4	• Aboriginal Education	
	Insight Day @ Wollotuka	2	• Aboriginal Education	
	SistaSpeak	1-4	• Aboriginal Education	
	BroSpeak	1-4	• Aboriginal Education	
	Building a Learning Circle	2-3	• Aboriginal Education	
	Didgeridoo Workshop	1	• Aboriginal Education	
An Aboriginal focused resilience program is in place for Year 7-9 students (such as SistaSpeak, BroSpeak etc.)	SistaSpeak	1-4	• Aboriginal Education	
	BroSpeak	1-4	• Aboriginal Education	
	I-Believe	2	• Aboriginal Education	
	Building a Learning Circle	2-3	• Aboriginal Education	
	Didgeridoo Workshop	1	• Aboriginal Education	
	Junior AECG	1-4	• Aboriginal Education	
Resilience programs are delivered to student sub groups of need (such as Seasons for Growth, RAGE, SHINE etc.)	Variety of groups in place, including RAGE, SCREAM, Girls Group, Boys Group, Rock and Water, Horticulture Cert 1 group, Friendship Group (social skills development, textiles focus), grief and loss support group under development.	1-4	• HT, CT, YA, Chaplain as appropriate	
	Super Six Metacognitive Strategies Training	1	• School Executive	

Staff receive professional development in practices to inform and improve student engagement	PBL Launch	2	• [insert staff name]	
Staff receive professional development in practices to support mental health and wellbeing	[insert name of professional/business providing]	3 or 4	• [insert staff name]	

Ethos and Environment

GOAL	STRATEGY	TERM	RESPONSIBILITY	REQUIRED RESOURCES
Rewards and recognition program or student acknowledgement program implemented school-wide	Recently revised school-wide merit system to continue	1-4	• School-wide	
Peer support or peer mentoring program in place	Peer Mediators program in place and expanding	1-4	• [insert staff name]	
	After-school tutoring program available to all students (15 senior students and ex-students as tutors, 20 tutees)	2-4	• [insert staff name]	
	Peer panel for repeat playground infractions being established	2	• [insert staff name]HT, YA and CT support	
Student empowerment or leadership program implemented school-wide	HSHF student empowerment process to continue and combine with the SRC	1-4	• HSHF student team and supporting staff	
Student empowerment or leadership program specifically for Aboriginal students in place	Aboriginal Student Leadership program	1-4	• Aboriginal Education	
	Aboriginal Mentoring	1-4	• Aboriginal Education	
Evidence-based anti-bullying strategies or programs implemented school-wide	HSHF student team focus, to be addressed through lessons, activities and events	1-4	• HSHF student team and supporting staff	
Cultural awareness strategies implemented for staff and students	PLP review process underway	1-4	• Aboriginal Education	
	Whole-staff training in 8ways	4	• Aboriginal Education	
Consultation activities with the local Aboriginal community in place	Regular attendance at Minimbah AECG	1-4	• Aboriginal Education • School Executive	

Partnerships and services

GOAL	STRATEGY	TERM	RESPONSIBILITY	REQUIRED RESOURCES

Aboriginal community organisations relevant to staff, students and student families are promoted and engaged within the school	Partnerships established through Minimbah AECG and Kayu Digi-Media Program with Hunter TAFE active and promoted within the school.	Ongoing	• Aboriginal Education	
Local community organisations, groups and clubs students can participate in are promoted and engaged within the school	Local Baptist Church	1-4		
	Local Youth Centre	1-4	• Ongoing partnerships	
	TAFE			
		1-4		
Health and community services relevant to staff, students and student families are promoted and engaged within the school	Salvation Army	1-4		
	CALM	1-4	• Ongoing partnerships	
	Samaritans	1-4		
Referral pathways and contact details for relevant health and community services are promoted to staff, students and student families	School Chaplain role and how to access his support published in the school newsletter	1	• [insert staff name]	
Additional communication strategies (beyond parent teacher nights, presentation assemblies and award events) are in place to increase parent engagement with the school	Moodle being modified to be more parent-friendly	1-3	• IT	
Strategies for developing student resilience are included in the school newsletter	Newsletter articles provided by HSHF	1-4	• HSHF	

Appendix 6.4: Example of information provided to schools during establishment of HSHF School Intervention Teams

A school intervention team was formed in each intervention school to implement intervention strategies (implementation support strategy number 3, Chapter 6, Table 1). Information was provided to schools to promote establishment of such teams.

Appendix 6.5: Example information regarding student protective factors provided to parents via school newsletter – Goals and aspirations

This is an example of content used as part of intervention strategy number 16, Chapter 6, Table 1: Information regarding student protective factors provided to parents via school newsletter.

Healthy Schools, Healthy Futures Program

Healthy Schools, Healthy Futures is a joint research project between Hunter New England Population Health and The University of Newcastle. We are working with a selection of schools to examine whether building resilience in adolescents leads to a reduction in smoking and alcohol consumption. At [insert school] High School the staff has been working to enhance the resilience of students both in and out of the classroom and this will continue in 2013.

One of the factors of resilience is the ability to have high expectations and goals and use these aspirations to plan and focus on the future. The start of a new school year brings an opportunity to reflect on past challenges and successes and set new goals for the coming year. In setting new goals it is important to be realistic and establish goals that are achievable. It is also important to be specific and have goals that are measureable and definite. A goal such as *"I'd like to achieve at least 60% on each English assessment this year"* is more specific than *"I'd like to get better in English"*. Being specific makes it easier to work out the smaller steps that need to be taken to achieve the goal.

Technology can be a handy tool in tracking goal progress. There are numerous handy apps designed to assist with setting, tracking and achieving goals. Some of these include *Way of Life,* which uses a colour-coded system for tracking multiple goals, and *43 Goals,* a social goal-making site that also connects to Facebook.

Whatever your goals may be this year, make them realistic, achievable and specific and work out how you will track your progress. And remember to celebrate your achievements along the way as well as at the end. These are the positive experiences and skills that help to build meaning, maintain motivation and develop greater resilience. Good luck!

School Project Officer
Healthy Schools Healthy Futures Project

Appendix 6.6: Example information regarding student protective factors provided to parents via school newsletter – Empathy
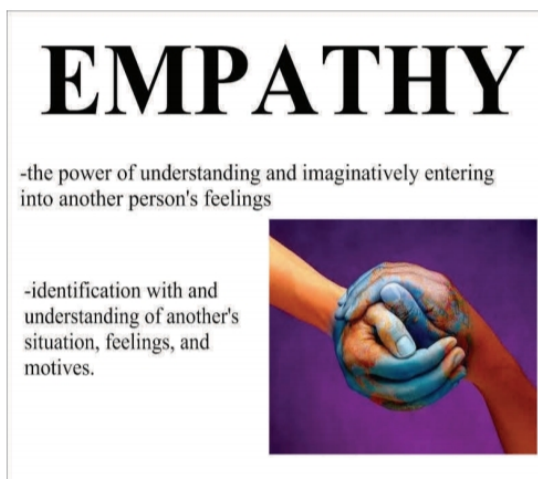
This is an additional example of content used as part of intervention strategy number 16, Chapter 6, Table 1: Information regarding student protective factors provided to parents via school newsletter.

Empathy and Resilience

EMPATHY AND RESILIENCE

HEALTHY SCHOOLS, HEALTHY FUTURES

Compassion and empathy are two characteristics that are important in developing high quality relationships. Together, compassion and empathy are qualities that allow us to recognise verbal cues and feelings expressed through body language, as well as have awareness of and sympathy for the situation or emotions of another person.

EMPATHY

-the power of understanding and imaginatively entering into another person's feelings

-identification with and understanding of another's situation, feelings, and motives.

HOW DOES EMPATHY PROMOTE RESILIENCE?

People who have empathy are able to communicate with and listen more to the people they share relationships with. Stronger relationships allow people to successfully express their own needs and wants whilst remaining considerate of other people, and having the ability to put aside their own concerns at times. This means that people who are able to have empathy will also benefit from high self -esteem, reduced loneliness, and a strong sense of who they are, and in doing so become more resilient. Someone who is resilient is able to overcome negative emotional and physical outcomes that may arise from situations of conflict or hardship.

If you would like more information on empathy and resilience try these websites:
- Empathy and compassion at the MentalHelp.net website - http://www.mentalhelp.net/poc/view_doc.php?type=doc&id=5796
- Empathy promotes emotional resilience, from the Psychology Today website - http://www.psychologytoday.com/blog/promoting-empathy-your-teen/201005/empathy-promotes-emotional-resiliency
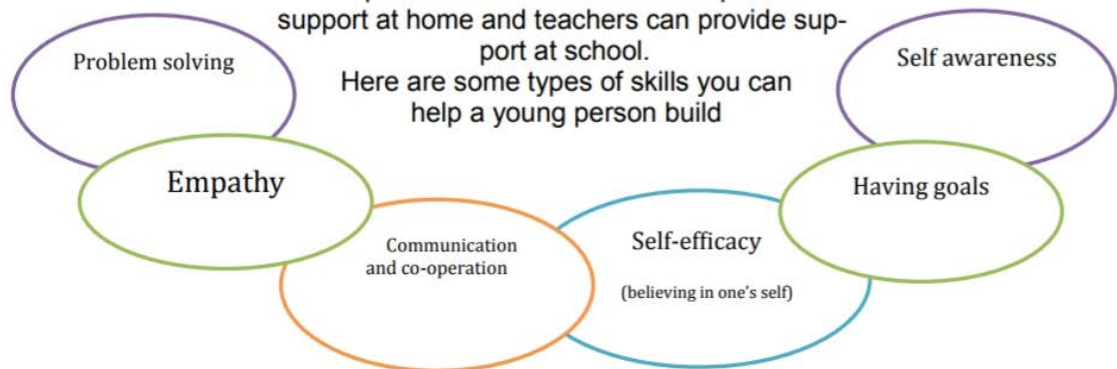
Picture from:
http://bridge-outsourcing.com/wp-content/uploads/2012/06/empathy.png

Appendix 6.7: Example strategy to increase parent involvement in school – Parent Communication Strategy: Information included in Newsletter

This is an example of content used as part of intervention strategy number 15, Chapter 6, Table 1: Strategies to increase parental involvement in school (e.g. school events, and effective parent communication strategies).

What is resilience?

Resilience is being able to adapt well to stressful situations in life such as family conflict, tragedy, mental health issues (depression, anxiety), failure at school, or the death of someone close. A person's ability to cope with a stressful situation depends on the personal skills they have, but can also depend on the situation – a person may be able to cope well in one situation, but not another. The good thing about resilience is that it's not a fixed characteristic in young people – they can learn the skills they need to cope with a range of stressful situations through parents, teachers, peers and other significant people in their lives. Parents can provide support at home and teachers can provide support at school.
Here are some types of skills you can help a young person build

Problem solving

Self awareness

Empathy

Having goals

Communication and co-operation

Self-efficacy
(believing in one's self)

For more information on resilience, visit the Kids Helpline website www.kidshelp.com.au

Appendix 6.8: Examples of Strategy Review Workshop Content, Handouts and Evaluation Form

Example content (presentation slides and handouts) utilised during a strategy review workshop with an intervention school as part of implementation support strategy 4b, Chapter 6, Table 1: Two school community planning workshops and one strategy review workshop.
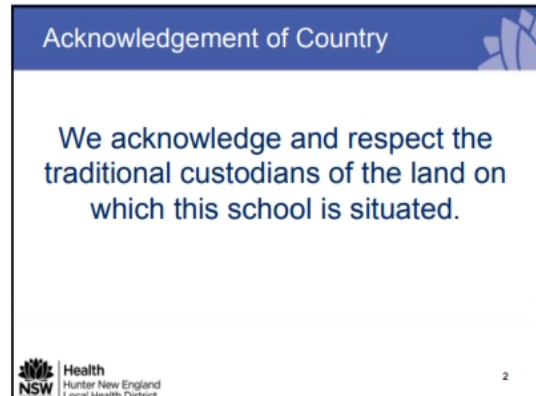
Example Workshop Presentation

NSW Health — Hunter New England Local Health District

Healthy Schools, Healthy Futures

Resilience Workshop
[insert school name] High School

20th November 2013

Acknowledgement of Country

We acknowledge and respect the traditional custodians of the land on which this school is situated.

NSW Health — Hunter New England Local Health District
2
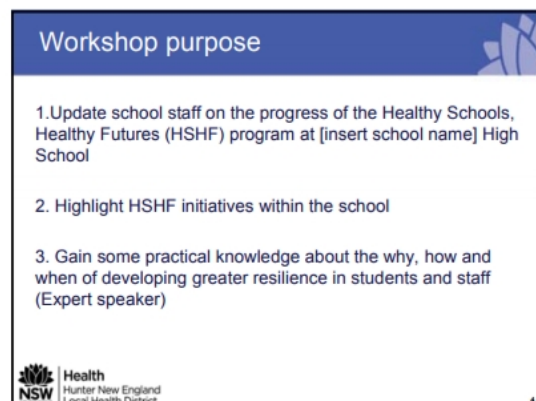
Workshop Agenda

1. Welcome and Introductions
2. Purpose of Workshop
3. Background to HSHF Program
4. HSHF Program progress to date
5. Developing resilience

NSW Health — Hunter New England Local Health District
3
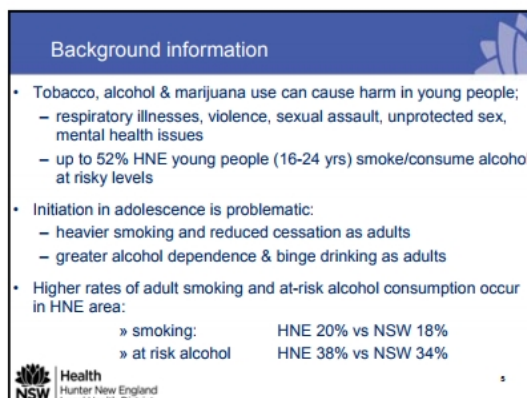
Workshop purpose

1. Update school staff on the progress of the Healthy Schools, Healthy Futures (HSHF) program at [insert school name] High School

2. Highlight HSHF initiatives within the school

3. Gain some practical knowledge about the why, how and when of developing greater resilience in students and staff (Expert speaker)

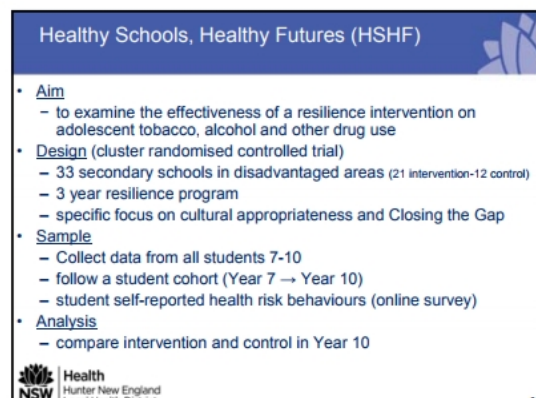NSW Health — Hunter New England Local Health District
4

Background information

- Tobacco, alcohol & marijuana use can cause harm in young people;
  - respiratory illnesses, violence, sexual assault, unprotected sex, mental health issues
  - up to 52% HNE young people (16-24 yrs) smoke/consume alcohol at risky levels
- Initiation in adolescence is problematic:
  - heavier smoking and reduced cessation as adults
  - greater alcohol dependence & binge drinking as adults
- Higher rates of adult smoking and at-risk alcohol consumption occur in HNE area:
  - » smoking: HNE 20% vs NSW 18%
  - » at risk alcohol   HNE 38% vs NSW 34%

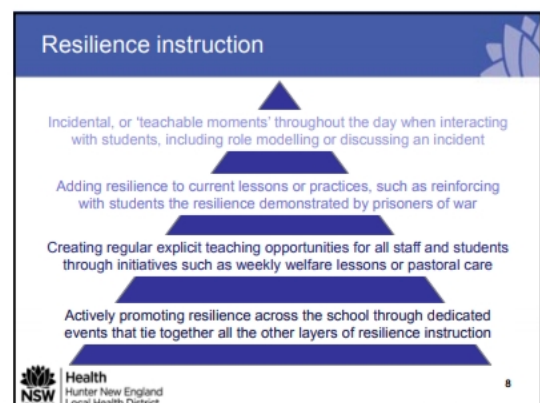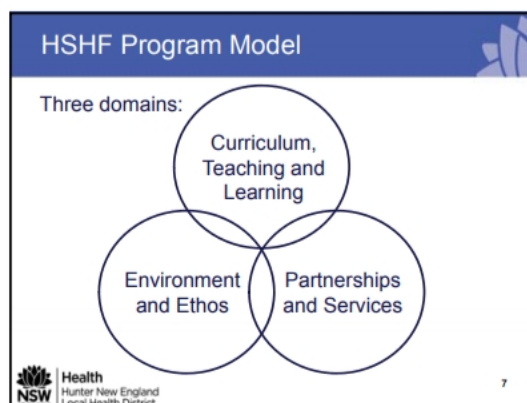NSW Health — Hunter New England Local Health District
5

Healthy Schools, Healthy Futures (HSHF)

- Aim
  - to examine the effectiveness of a resilience intervention on adolescent tobacco, alcohol and other drug use
- Design (cluster randomised controlled trial)
  - 33 secondary schools in disadvantaged areas (21 intervention-12 control)
  - 3 year resilience program
  - specific focus on cultural appropriateness and Closing the Gap
- Sample
  - Collect data from all students 7-10
  - follow a student cohort (Year 7 → Year 10)
  - student self-reported health risk behaviours (online survey)
- Analysis
  - compare intervention and control in Year 10

NSW Health — Hunter New England Local Health District
6

HSHF Program Model

Three domains:

- Curriculum, Teaching and Learning
- Environment and Ethos
- Partnerships and Services

NSW Health — Hunter New England Local Health District

7

Resilience instruction

Incidental, or 'teachable moments' throughout the day when interacting with students, including role modelling or discussing an incident

Adding resilience to current lessons or practices, such as reinforcing with students the resilience demonstrated by prisoners of war

Creating regular explicit teaching opportunities for all staff and students through initiatives such as weekly welfare lessons or pastoral care

Actively promoting resilience across the school through dedicated events that tie together all the other layers of resilience instruction

NSW Health — Hunter New England Local Health District

8

Program progress to date

1. Curriculum, teaching and learning…

- Resilience activities implemented in a variety of KLAs including English and Science
- Motivational Media
- Tutor Group resilience activities
- SistaSpeak
- Rock and Water
- PitStop Program
- R U OK? Day
- AND lots more…..

NSW Health — Hunter New England Local Health District

9

Program progress to date

2. Environment and Ethos…

- Bystanders Program
- The Hurting Game
- Stronger Students
- And more to come…

NSW Health — Hunter New England Local Health District

10

Program progress to date

3. Partnerships and Services…

- Additional community organisations/groups/clubs promoted and engaged
- Newsletters, assemblies, special events, seminars, parent meetings, individual student support and staff training
- HSHF newsletter articles
- Staff Workshops
- And more to come….

NSW Health — Hunter New England Local Health District

11

Where to from here?

- There are less than 12 months remaining of the 'intervention' phase of the research project
- Data has been collected again with Year 9 last term. Final data collection across Years 7 -10 in 2014
- [Insert School Intervention Officer Name] will continue to liaise with [key contact name] and the Welfare Team on increasing student resilience and improving staff wellbeing.
- Research so far has shown the most positive and noticeable impact on students and staff occurs when the greatest number of staff possible are engaging in some form of resilience instruction.

NSW Health — Hunter New England Local Health District

12

Example Workshop Handout provided to school staff during a strategy review workshop.

TERM 4 2013

THE RESILIENCE WRITE-UP

HSHF UPDATE...

Term 3 was a busy time for the schools involved in Healthy Schools Healthy Futures. There was a focus on assisting schools to implement all of the Healthy Schools Healthy Futures resilience strategies and some wonderful initiatives have been put in place. We are starting to receive outstanding feedback regarding the impact of our resilience approach. For example, one school has reported a decrease in student misbehaviour and another has reported a positive change in help seeking, communication and engagement. A quote from one Principal was that: "Healthy Schools Healthy Futures has helped us change the culture here at our school, where it is now a proudly positive school culture and we continue to improve."

We are now entering the final year of assisting to develop and embed resilience in schools. I look forward to the exciting year ahead and of hearing more great resilience strategies that will ultimately have a positive impact on the health and wellbeing of our young people.

Dr Megan Freund

SELF-COMPASSION...

Have you ever had one of those days where not much goes right? Maybe you were running late, weren't as organized as you could have been or forgot to get back to a parent or colleague like you promised. What do you say to yourself under circumstances like these? Often the internal dialogue can be negative – perhaps something like "You idiot, you can't manage to get anything together today, can you?!" The stressors faced by teachers are varied, sometimes constant and can be enough to prompt a career move. A survey of 1200 early career teachers conducted by the Australian Education Union in 2006 found that 45% of respondents believed they would not still be teaching in 10 years' time (AEU, 2006).

Self-compassion provides a small way of managing some of the emotion associated with stress. What would you say to a good friend having a bad day? It is unlikely to be "You idiot, you can't manage to get anything together today, can you?!" Why is it harder to be kind, rather than critical, to ourselves? Self-compassion is about softening that inner critic and replacing it with an understanding voice of support and care.

For more information on self-compassion, please see http://www.self-compassion.org.

Beginning teachers' list workload, behavior management, pay and class size as top concerns. Melbourne: AEU. Retrieved from http://www.aeufederal.org.au/Media/MediaReleases/2006/0202.pdf

RESILIENCE RESOURCES...

SenseAbility

SenseAbility is a strengths-based resilience program designed by beyondblue for young Australians aged 12-18 years. It consists of seven modules developed to enhance and maintain emotional and psychological resilience. The teaching kit includes each of the modules, a DVD and a CD. There are additional downloadable curriculum materials and resources available online. SenseAbility has a dedicated YouTube channel with video clips to support module instruction.

The SenseAbility professional e-learning program was developed to assist teachers in delivering SenseAbility and, in particular, the Essential Skills module. SenseAbility e-learning is free and covers approximately three hours of professional learning. Participants receive a certificate upon completion.

Each school participating in HSHF has received a SenseAbility kit to assist with building student resilience.

For further information please see: http://www.beyondblue.org.au/resources/schools-and-universities/secondary-schools-and-tertiary/senseability

mindmatters
Leading mental health and wellbeing

MindMatters is both a teaching resource and a professional development initiative that has been operating in Australian secondary schools over the past 10 years. It is funded by the Australian Government Department of Health and Ageing and aims to promote and protect the mental health, and social and emotional wellbeing of all the members of a school community.

In June 2013 beyondblue was commissioned to redevelop MindMatters. The new-look MindMatters will encompass the latest thinking in youth mental health, with a four-component framework and state of the art online learning modules designed to assist in implementing targeted strategies for supporting students experiencing serious mental health issues as well as universal wellbeing approaches.

The new framework and online resources will be launched in 2014.

For further information please see: http://www.mindmatters.edu.au

HEALTHY SCHOOLS, *HEALTHY FUTURES*
R E S I L I E N C E - I N - S C H O O L S

HMRI — Hunter Medical Research Institute

NSW GOVERNMENT | Health Hunter New England Local Health District

nib foundation

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Additional example Workshop Handout provided to school staff during a strategy review workshop.

General teaching of resilience strategies

Increasing resilience can lead to greater academic achievement, but also positive relationships and socially appropriate behaviour. Through building and developing resilience, students may be able to better cope with adversities and life challenges. When teachers implement resilience strategies in their daily practice, they are helping students to be in a better position to think and act reflectively and flexibly throughout life.

Promoting resilience will:

- ✓ establish meaningful relationships
- ✓ create safe and supportive environments
- ✓ support students to achieve their goals
- ✓ model appropriate responses to different situations
- ✓ develop awareness of student interest and achievements
- ✓ identify strengths and abilities to build upon
- ✓ allow students to express feelings
- ✓ help students identify and understand their own feelings and empathy for feelings of others
- ✓ provide opportunities for success
- ✓ help students to identify, plan and work towards their goals
- ✓ help students work in partnerships, teams, families and the community

Source: ResponseAbility Resilience Factsheet
ResponseAbility Wellbeing Factsheet

The following simple strategies promote resilience in the classroom:

- ✓ students are recognized for their individuality
- ✓ class rules are firm, fair, flexible and applied consistently
- ✓ discipline is respectful and allows students to see themselves as well intentioned
- ✓ students are actively involved in their own learning
- ✓ group work is encouraged to allow students to learn to work with others
- ✓ discussions are used as opportunities to practice respecting and expressing opinions appropriately
- ✓ students are made aware that put-downs are unacceptable
- ✓ students feel safe to take risks in their learning
- ✓ lessons present students with real challenges and give them a feeling of accomplishment
- ✓ students are not regarded as unteachable
- ✓ students are given experiences in planning, preparing for and publicly presenting projects which they and their communities value
- ✓ student friendships are valued and, wherever possible, close friends remain in the same class from year to year

Source:
http://www.curriculumsupport.education.nsw.gov.au/secondary/pdhpe/assets/pdf/mh_002.pdf

Suggestions for teachers:

- ✓ Have explicit and agreed ground rules. This helps to produce cooperative and productive behaviours
- ✓ Start with easier group activities to build confidence in students and your worn practice
- ✓ Connect the activity with the lesson
- ✓ Student learning will be enhanced when you are prepared and students are pre-organised
- ✓ Rotate students through groups to foster inclusion, diversity, social skills and empathy. Some activities may require careful placement in groups
- ✓ After completion of an activity, allow time for students to debrief:
  - review what happened
  - identify how they felt
  - identify what they learned
  - link their learning to the lesson
  - reflect on your own learning

Source: MindMatters Toolkit

Teachers can provide support to students, particularly those at risk, through resilience-building activities. See overleaf for some examples of grouping activities, 'getting to know you' activities and team building.

Grouping activities

Grouping activities protect participants from the pressure of choosing or being chosen. Working closely with a range of different people promotes social skills and the development of empathy.

Number off
To organise groups into pairs – Halve your class size (15 if the class has 30 in it). Number students off to that total, and then start again. Each person must find the other person with the same number as them. If there is an odd number, include yourself or engineer an appropriate group of three.

Name lotto
To organise class into pairs, threes or fours – Cut up copy of class roll. Put names in a box. Draw out two at a time to make pairs, or in batches of three of four for larger groups.

Shapes
To organise class into predetermined number of groups – Cut paper into sets of shapes (triangles, squares, rectangles and pentagons). The number of different shapes will determine the number of groups. Distribute and ask students to group with those holding the same shape.

To learn more grouping activities, see the MindMatters Toolkit

Getting to know you

Structured conversations
Play a pairing activity, or an activity to organise trios. Once students have found their pair, allot one minute per person for a conversation topic. Signify when it's time to finish the conversation. Re-group or re-partner and set the next topic.

Example topics:
My favourite sport
My favourite food
My favourite shop
My favourite holiday
My plans for the weekend

Line-ups
Challenge the class to line up or group themselves according to:

- birth month
- star signs
- hair length
- same primary school
- number of pets

For additional challenge, ask them to find their groups or line up without speaking. Suggest they use sign language or mime.

To learn more 'Getting to know you' activities, see the MindMatters Toolkit

HEALTHY SCHOOLS, HEALTHY FUTURES
RESILIENCE-IN-SCHOOLS

HMRI   Health NSW Hunter New England Local Health District   nib foundation

Team building

These activities have been devised to enhance and examine cooperation and problem-solving.

Knots
During this activity, look for leadership, cooperation, communication and problem-solving: Group of around 8-12 participants huddle in a small bunch, close their eyes and put hands out to clasp another's hand in each of theirs (or link arms).
With hands still firmly grasped, everyone opens their eyes.
Unravel the knot of arms and end with the group in a circle formed by their linked hands.

Clap race
During this activity, look for evidence of the degree to which practice and concentration assist in meeting goals. Sit in a circle. Start a clap which passes from person to person around the circle, Mexican wave style. Practise to see how fast it can travel.

To learn more team building activities, see the MindMatters Toolkit

Example Workshop Evaluation Form (utilised for internal quality and improvement purposes)

<u>**RESILIENCE WORKSHOP EVALUATION**</u> **- Please submit before you leave this afternoon.**

Presenter: [Insert name(s)]	School: {Insert school name] High School	Date: [Insert date]
1. The presentation gave a clear overview of the Healthy Schools, Healthy Futures research project. ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree	✎ Comments	
2. The speakers were engaging with relevant content. ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree	✎ Comments	
3. There was at least one strategy or idea suggested in the presentation that you will try. ☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree	✎ Comments	
4. Generally speaking, what professional learning or resources would assist you in better supporting students? ✎ Comments		
5. What additional supports would you find useful for identified students who are having difficulties at school? ✎ Comments		
Any other general comments?		

Thank you, your feedback is greatly appreciated.

HEALTHY SCHOOLS, *HEALTHY FUTURES*

R E S I L I E N C E - I N - S C H O O L S