Evaluating the Effectiveness of a Resilience Program for Children and Young People in a Private Australian Psychology Clinic

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This thesis is presented in fulfilment of the requirements for the degree of Master of Clinical Psychology

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Declarations

Statement of Originality

This 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 this copy of my thesis, when deposited in the University Library*, being made available for loan and photocopying subject to the Copyright Act 1968.

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Acknowledgement of Authorship and Collaboration

I hereby certify that the work embodied in this thesis contains a scholarly work of which I am a joint author. I have included as part of this thesis a statement clearly outlining the extent of collaboration, with whom and under what auspices.

I conceived the research questions, participated in the design of the current study and undertook part of the statistical analysis. Ms Lyn Worsley and Dr Tanya L. Hanstock participated in the design of the current study. Ms Megan Valentine assisted with statistical analysis. All authors assisted with the editing of the manuscript, contributed to the interpretation and implications of the findings and approved the manuscript.

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Kaitlyn E Massey            Date
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Structured Abstract

**Scope.** Research into intervention programs that aim to enhance resilience in young people is continually expanding. Developing evidence-based intervention programs for use within non-clinical populations is important. These programs can be proactive in supporting young people to overcome inevitable adversity in positive ways.

Two early prevention programs, which have been utilised within non-clinical populations in Australia, are the FRIENDS program and the Resilience Doughnut model. Both programs are designed to develop social and emotional skills in children and adolescents in order to promote resilience. The FRIENDS program has a greater body of research than the Resilience Doughnut; however both programs have been shown to reduce anxiety and depression in young people.

**Purpose.** The purpose of this research was to expand on previous research for the Resilience Doughnut model. Since the earlier study, two programs based on the Resilience Doughnut model have been developed and are currently being used within a private clinic in Australia. The programs are Linked-Up (for 13-16 year-olds) and Connect-3 (for 8-12 year-olds). The two programs have identical structure, but use different examples and worksheets to tailor the concepts of the Resilience Doughnut to two developmental age groups.

**Methodology.** Participants were children and adolescents aged between 8-17 years old who were enrolled in either the Connect-3 or Linked-Up program. There were 70 participants in total, 40 males (57%) and 30 females (43%), from high socio-economic backgrounds. The programs were completed at The Resilience Centre, Sydney. Each group ran with approximately 6-10 participants. The programs ran over a 6-week period for 1.5-hour sessions, per-week.

The effectiveness of the two programs was assessed for the current study by taking pre and post measures of resilience and adversities. The Strengths and Difficulties
Questionnaire (SDQ; Goodman, 1997) and the Resilience Scale for Adolescents (READ; Hjemdal, et al., 2006) were administered to students 1-week prior to the program commencing and repeated following the conclusion of the sixth session. The data was analysed using linear mixed models.

**Results.** The Connect-3 group showed a significant reduction in mean scores from pre-intervention to post-intervention for total difficulties score. They also had a significant increase in mean scores from pre-intervention to post-intervention on the subscale of Personal Competency. The Linked-Up group showed no significant change in scores for pre-intervention to post-intervention. Gender analysis showed no significant difference between males and females, with the exception of the subscale of Personal Competency. On this scale, males in the Connect-3 group scored significantly higher than females.

**General Conclusions and Implications.** These findings support previous research, which suggests that resilience programs are more effective when implemented with primary school aged students rather than high school students. These results provide good evidence for the Connect-3 program in reducing adversities, however, it is important to consider the clinical relevance of the findings. In all of the SDQ subscales, the mean participant scores fell within the ‘average’ to ‘slightly raised’ descriptive categories, suggesting that the participants did not have a clinically high rate of difficulties before treatment. This is not surprising, given that the study was completed with a non-clinical population and delivered in a high Socioeconomic Status (SES) suburb. Future research should aim to explore the effectiveness of the resilience programs within clinical populations or with young people who have increased risk of adversity such as those from low SES areas. Future research should also consider how resilience could be enhanced in older-adolescent populations.

**Keywords:** Resilience, Children, Adolescents, Intervention Program
Critical Literature Review

Research on resilience has rapidly increased in the past 50 years (Goldstein, Brooks, & DeVries, 2013). Resilience is an important area of study because coping with stress, change and adversity is a facet of everyday life. This is particularly true for children and adolescents, who experience multiple biological, social and psychological changes during this developmental phase (Barrett, Cooper & Guajardo, 2014). The concept of resilience has been debated in the literature, and at present, there is no consensus over the definition of resilience (Ungar, 2008). However, it is generally accepted that resilience is an individual’s ability to bounce back from adversity (Prince-Embury, 2014). This ‘ability’ is influenced by the interaction between protective factors and risk factors (Werner & Smith, 1992; 2001) and is often characterised by positive coping skills, optimistic thinking, growth, social support and positive outcomes (Prince-Embury, 2014). This literature review will begin with a description of how resilience is developed through personal strengths and protective factors. It will include how this research has been used to develop two early intervention and prevention programs that promote resilience and coping skills in children and adolescents in Australia. These two specific Australian-based child and adolescent resilience programs will then be compared and critiqued, and recommendations for future research will be made.

History of the Term Resilience

Historically it was believed that resilience was a special quality that only a few children possessed (Anthony & Cohler, 1987). This came from early studies focusing on children who had experienced significant hardship, such as abuse or neglect, who had still developed into well-adjusted adults. These children were coined ‘invulnerable’ (Anthony & Cohler, 1987). This viewpoint was later discredited as Masten (2001) supposed that resilience came from ordinary minds of children within their family and community context, which she described as ‘everyday magic’. This was an important paradigm shift
as it provided an optimistic approach suggesting that the majority, rather than the minority, of children can overcome adversity.

Werner and Smith (2001) supported Masten’s (2001) view through a longitudinal study where they examined the development of 700 children into adulthood. The children had a number of risk factors and many had coping difficulties in adolescence. However, Werner and Smith (2001) found that the majority of children had developed into well-balanced adults with stable jobs and relationships and reported being satisfied with their life. The researchers suggested that these results highlight the importance of protective factors. They proposed that even when the risk factors are high, protective factors provided the support to overcome severe adversity. Ongoing research has largely accepted that resilience is influenced by a combination of an individual’s personal strengths, and external protective factors (Prince-Embury, 2014; Ungar, 2008).

**Theories of Resilience**

There are many theories about what formulates the personal strengths and protective factors of resilience. Grotberg (1995) categorised them into three main areas “I HAVE, I AM, I CAN”. I HAVE are the external supports that promote resilience (e.g., I have trusting relationships); I HAVE factors are foundational to the subsequent categories. I AM is the child’s personal strengths and characteristics (e.g., I am loveable). The I CAN factors are the child’s interpersonal and social skills (e.g., I can communicate and problem solve). Other researchers have provided more specific categories, such as community, school, family and individual/peers (Fuller, 1998) and social competence, problem solving, autonomy and sense of purpose (Benard, 2004). Ungar (2008) redefined the protective factors and personal qualities as ‘tensions’. He hypothesised that people needed to balance these tensions in order to enhance their resilience; having too many or too little resources removed the tension needed to develop resilience.
Overall, it is evident that throughout the research, there is a consensus that resilience is developed through both internal resources such as personal characteristics and skills, as well as external factors, such as environmental, social and educational factors. Luthar, Cicchetti and Becker (2000) clarified this further, by stating that personal qualities can be referred to as ‘resiliency’, whereas ‘resilience’ is the developmental process that occurs through the interaction of the internal qualities and the external factors.

Defining Resilience

Despite the consensus that resilience is developed through both internal resources and external factors, there is still no single agreed upon definition. Early definitions of resilience were primarily focused on overcoming adversity, such as Grotberg (1995), who stated, “resilience is the universal capacity which allows a person, group or community to prevent, minimise or overcome the damaging effects of adversity” (p.3). Masten and Powell (2003) stated, “Resilience refers to patterns of positive adaptation in the context of significant risk and adversity” (p. 4).

Over time, definitions have developed to be more comprehensive and complex, to include not just the individual, but also the community within which they live. Ungar, Brown, Liebenberg, Cheung and Levine (2008) define resilience as “the capacity of individuals to navigate their physical and social ecologies to provide resources, as well as their access to families and communities who can culturally navigate for them” (p. 168). In this definition Ungar et al. (2008) identifies that resilience is more than just having, or not having resources; but it is also the capacity to know how to use these resources to be resilient. This definition also identifies that individuals require support from their families and communities to assist in understanding and using these resources.
Intervention Programs for Non-Clinical Populations

Understanding that resilience is a process influenced by risk and protective factors, more recent research has been interested in how resilience can be developed or enhanced. Seligman (2002) suggests that resiliency can be enhanced with positive psychology through utilising a strength-based approach to build people’s capacity, rather than correcting their difficulties. There is considerable research into treatment programs that aim to enhance resilience, and evidence indicates that prevention programs are important in assisting people to overcome difficult circumstances and prevent mental health problems (Barrett et al., 2014). There are a number of international resilience-based programs, such as the Penn Resiliency Program (Gillham et al., 2007), however there are only two resilience programs that have been evaluated using Australian non-clinical child and adolescent populations. These two Australian programs, which aim to enhance resilience in children and adolescents, are the FRIENDS program (Barrett, 2012) and The Resilience Doughnut model (Worsley, 2006). There are other resilience programs being used within the Australian context, such as the BOUNCE BACK! (Axford, Schepens & Blyth, 2011) program, however it has not been evaluated using Australian samples, and therefore will not be focused on within this review.

The FRIENDS program

The FRIENDS program (Barrett, 2012) is the most widely researched resilience-enhancing program in Australia and was first developed and evaluated by Barrett and Turner (2001). It has since been revised several times to ensure the content of the program is up to date with current literature (Barrett et al., 2014). There are a number of versions of the program, which are targeted at different clinical populations. For the purposes of this research, only the universal program for children and adolescents has been examined.
The aim of the FRIENDS (Barrett, 2012) program is to develop social and emotional skills in children and adolescents in order to promote resilience and prevent anxiety and depression (Barrett et al., 2014). The theoretical framework of the program is based on cognitive-behavioural theory (CBT) and positive psychology (Barrett et al., 2014). The acronym of FRIENDS is used to form the basis of the program. The letter F stands for “Feelings”; the letter R is, “Remember to Relax”; I, “Inner helpful thoughts”; E, “Explore solutions and coping plans”; N, “Now reward yourself”; D, “Do it every day”; and S, “Stay strong inside.” The program is implemented over a 10-week period with each session lasting 60 minutes. The sessions correspond to one of the letters in the acronym; for example, the F week focuses on social and emotional skills development. The sessions utilise CBT strategies, such as relaxation, exposure, assertiveness and problem solving skills. Cognitive strategies involve developing the student’s awareness of their thoughts and feelings and how they interact. There is a focus on recognising faulty cognitions and developing optimistic thinking styles. It is through this process that protective factors, such as self-esteem and coping skills, are developed in order to foster resilience (Barrett, 2014).

The FRIENDS program has been evaluated several times as a universal program. Lock and Barrett (2003) studied 977 students in Year-6 and Year-9 over seven different Australian Schools. The schools were randomly assigned to an intervention condition or a monitoring condition. They used four different scales as pre and post measures; two anxiety scales, one depression scale and one coping scale. One of the anxiety scales, the Spence Children’s Anxiety Scale (SCAS; Spence, 1998) was used to stratify students into ‘at-risk’ and ‘healthy’ groups based on how the child scored. They also completed 12-month follow-up assessment to examine the long-term effects of the program. The results demonstrated that the program was successful in reducing anxiety and increasing coping skills, with the strongest effects noticed in the younger age group. Lock and Barrett
(2003) use these findings to suggest that earlier intervention could be more beneficial than later intervention. Barrett, Lock and Farrell (2005) replicated these results.

A follow-up study of Lock and Barrett’s (2003) findings was completed to assess the effects of the program at 24- and 36-month intervals (Barrett, Farrell, Ollendick & Dadds, 2006). This study found that the reductions in anxiety were maintained for Year 6 students who were in the treatment condition, and not in the aged-matched control group. They also reported a gender effect, with girls in the intervention group scoring lower on anxiety than girls in the control group, although this effect dissipated at the 36-month follow-up. The authors suggest this finding supports the previous study’s hypothesis that earlier intervention, specifically during Year-6, is ideal for long-term benefits.

Overall, these studies demonstrate sound methodological design, which was supported by an independent study by Brownlee et al. (2013), who found that the controlled empirical methodology of the FRIENDS program met their research standard. All of the studies discussed used a control condition to compare the treatment outcomes with a large sample size. The measures used to examine anxiety and depression were reliable and valid. The researchers also ensured randomised assignment of treatment and control conditions. Importantly, fidelity checklists were used to ensure a standardised implementation of the FRIENDS program. The combination of a thorough methodological design with appropriate statistical analysis establishes good support for the FRIENDS program as an evidenced-based intervention.

There were however, some limitations of the above-mentioned methodological designs. These included a high participant absenteeism at post-intervention and follow-up time points, which was cited as being primarily due to the many extra-curricula activities occurring at the same time (e.g., excursions, sport, music) within the schools. The authors reported that attrition rates were particularly high in the control conditions, which may have impacted the statistical analysis. Another limitation is that the statistical analysis is
based on self-reports from the children. This is a subjective measure, which may not be an accurate representation of the child’s symptoms. Future studies could consider using multiple informants, such as parents and teachers, to assess changes in anxiety.

The most important consideration of the FRIENDS program is whether it is actually focused on developing resilience or whether it simply focuses on managing anxiety. The studies discussed primarily present themselves as a cognitive-behavioural intervention to reduce anxiety, rather than as a program designed to develop resilience.

Furthermore, Lock and Barrett’s (2003) study is the only paper that used a coping scale to measure an increase in coping skills, however this scale was not used in the 12-month follow-up or in proceeding studies. Other scales could have been used to specifically measure resilience, such as the Resilience Scale for Adolescents (READ; Hjemdal, Friborg, Stiles, Martinussen, & Rosenvinge, 2006). Therefore, it could be argued that the FRIENDS program is a treatment program for anxiety, which may also impact on resilience factors. It is not specifically a resilience-enhancing program.

**The Resilience Doughnut**

The Resilience Doughnut program was developed by Worsley (2006) and is based in the theoretical framework of Solutions-Focused Theory (SFT) and Positive Psychology. As the name suggests, the program is based around the concept of a doughnut, where inside the doughnut represents the internal strengths of the individual, and the outside of the doughnut represents seven protective factors they may have, such as social and environmental factors (see Figure 1). The internal strengths are based on the work of Grotberg (1995), utilising the I HAVE, I AM and I CAN categories. These categories contribute to raising an individual’s self-esteem, and self-efficacy, as well as raising the young person’s awareness of his/her available resources (Cameron, Ungar & Liebenberg, 2007).
Figure 1. The Resilience Doughnut (Worsley, 2006).

The protective factors are rooted in theoretical/empirical research by Werner and Smith (2001), Fuller (1998) and Ungar (2008b) and are the ‘Parent’, ‘Skill’, ‘Family and Identity’ ‘Education’, ‘Peer’, ‘Community’ and ‘Money’ factors. The Parent factor is considered strong when a young person has a parent who has a balance between control and warmth (Worsley, 2006). When young people have parents who are predictable with discipline and create firm boundaries, they are more likely to thrive under adversity (Suchman, Rounsaville, DeCoste & Luthar, 2007; Ungar, 2009). Furthermore, children whose parents communicate openly and show love and warmth are more likely to feel accepted and have a sense of belonging (Fuller, McGraw & Goodyear, 1998; Ungar, 2009).

The Skill factor is directly related to developing a number of resiliency qualities, such as hardiness and confidence (Worsley, 2006). Developing a skill, such as learning a new sport or musical instrument, encourages a young person to develop perseverance and problem solving skills (Hooper, Marotta & Lanthier, 2008) as well as a sense of achievement and success (Masten & Coatsworth, 1998). This is because learning a skill
provides young people with the opportunity to face difficulties and learn how to handle failure (Worsley, 2006).

The Family factor looks beyond the parent and considers the wider family system in supporting the development of resiliency. Extended family members assist in creating a family identity and sense of belonging (Worsley, 2006). This is created through family traditions, shared spiritual/cultural beliefs and sharing trials or adversity (Fuller, 2002; Geggie, Weston, Hayes & Silberberg, 2007). Having other trusted adults, such as grandparents, aunts or uncles, assists children in accessing other supports during times of adversity (Masten & Shafffer, 2006; Ungar, 2009).

The Education factor considers not just the academic ability of a young person, but also considers the relationships and community that a young person can develop through his/her educational institution (Worsley, 2006). Schools provide young people with the opportunity to connect with other students as well as teachers who challenge and support them (Fuller, 2002). Resilient students have teachers with high expectations of them and who support them to develop skills to achieve academically (Masten, Herbers, Cutuli & Lafavor, 2008). Schools also provide young people with the opportunity to participate in extra curricular activities to encourage broader learning and development (Worsley, 2006).

The Peer factor explores the relationships that a young person has with his/her peers and how this impacts on resiliency. Developing and maintaining friendships is a significant challenge during adolescence (Worsley, 2006). Young people report that being connected with their peers is one of the most important protective factors during times of adversity (Fuller et al., 1998). Peer relationships are fundamental in developing social skills in young people. Through friendships, young people learn skills of empathy, cooperation and managing group dynamics (Worsley, 2006).
Furthermore, peer relationships facilitate the development of moral reasoning skills. Kohlberg (1984) mapped 6 stages of moral development, which can be grouped into 3 main platforms, ‘Pre-conventional Morality’, ‘Conventional Morality’ and ‘Post-conventional Morality’. The Pre-conventional stage is characterised by fixed, absolute rules, where an individual’s moral behaviour is determined by satisfying their own needs and avoiding punishment. The Conventional stage is characterised by social conformity. Moral behaviour is determined by what is right for the group, and is motivated by seeking approval of others and compliance with common rules or law. The Post-conventional stage is characterised by the development of empathy and personal values. Moral behaviour is about recognising that there are differing opinions about what is considered to be right and wrong. Instead, morality is about justice and fairness and recognising the needs of others. Worsley (2006) suggests that peer relationships assist young people in developing moral understanding and therefore, progression through to higher stages of moral reasoning.

The Community factor examines the role of social structures and support services available to young people in order to enhance resilience. Communities such as sporting clubs, music societies, religious or other activity groups, provide young people with the opportunity for positive relationships and a sense of belonging (Worsley, 2006). For many cultural backgrounds, the wider community plays an important role in developing social connectedness to their geographical location, other communities and society as a whole (Ungar, 2008; Ungar et al., 2015). Additionally, being a part of a community provides another opportunity for young people to connect with other adults outside their family and develop mentoring relationships (Fergus & Zimmerman, 2005). Furthermore, when a young person belongs to a community that shares a common belief, it provides a sense of purpose and meaning, which also enhances resilience (Crawford, Wright & Masten, 2006).
The Money factor is the last external factor in the Resilience Doughnut model. The Money factor relates to both economic stability as well as attitudes toward acquiring and spending money (Worsley, 2006). Having access to basic needs, such as stable housing, food and basic resources is protective for people during adversity (McLoyd, et al., 2009). However, it is also important for young people to understand the value of money, as having free access to resources limits young people’s ability to have control and manage resources (Masten & Coatsworth, 1998). Worsley (2006) states that the Money factor is based on learning how to ‘give’ in order to ‘take’ (p. 93). Giving focuses on contributing to society through work, which helps promote a strong work ethic and sense of gratefulness (Fuller et al, 1998). Taking focuses on developing self-discipline with spending, saving and managing finances (Masten & Coatsworth, 1998).

Combining these 7 external factors with the internal individual characteristics of I HAVE, I AM and I CAN (Grotberg, 1995) forms the framework of The Resilience Doughnut (Worsley, 2006). The Resilience Doughnut is a model of resilience where the external factors channel into the internal strengths of a child (Worsley, 2014). Worsley (2014) states that the Resilience Doughnut is not about teaching children to be resilient, but rather it is about teaching families and communities to have relationship skills that build resilience in children. This process occurs through helping children and their families gain more self-awareness and social skills, as well as developing creative ways to strengthen their external protective factors (Worsley, 2008).

Worsley (2014) suggests that not all seven factors need to be present to build resilience, but hypothesise that when three factors are working together, a young person’s wellbeing will be enhanced. Through strengthening three factors, Worsley (2014) proposes that the rest of the factors will be strengthened too. This is based on the principles of SFT, which suggests that focusing on strengths, rather than problems, will elicit positive change and promote resiliency (Worsley, 2008).
From the Resilience Doughnut model, Worsley (2014) developed a program to implement within a school context. This program used the strengths-based approach of the Resilience Doughnut to teach young people about optimistic thinking skills, similar to the FRIENDS (Barrett, 2012) program. Developing optimistic thinking skills involves learning cognitive skills that promote resilience. For example, students learn that when adversity arises, people who have optimistic thinking skills can recognise that the adversity is (1) temporary, so that the situation will improve; (2) the adversity is specific to the situation and that they can learn from it; (3) the adversity is not because of them, but because of other factors, so they can try to change their circumstances (Worsley, 2006). Similarly, learning optimistic thinking skills also teaches student’s self-awareness, so that they can develop insight into their own thinking style and alter it accordingly to develop a more optimistic mindset (Gillham, Reivich & Shatte, 2002).

Optimistic thinking is an important aspect of the Resilience Doughnut programs because it is an ability that is associated with a variety of emotional and behavioural skills. These skills include emotion control, impulse control, empathy, self-efficacy, and maintaining realistic optimism (Gillham, et al., 2002). Many of these qualities are critical to the development of resiliency, more specifically, the development of the I HAVE, I AM and I CAN (Grotberg, 1995) of the Resilience Doughnut model (Worsley, 2006).

The Resilience Doughnut (Worsley, 2006) has not been evaluated to the extent of the FRIENDS program; however, three case studies conducted by Worsley (2014) demonstrate a number of positive outcomes for the model. Three schools were selected to utilise the Resilience Doughnut model. The first and second case study used Year 8 students to implement the program, and the third case study used Years 7-10. The schools were varied in socioeconomic status (SES), gender, location and public/private education. Specific staff members were trained in the Resilience Doughnut model, which they implemented with the students using an online tool. The online tool assisted the students
in identifying their three strongest protective factors, from the seven external factors in the model. The students then had to develop a project linking their three strengths. For example, a student’s strengths might be Parent Factor, Skill Factor (skill being football) and Community Factor. This child’s project might involve planning a football match in the local park and inviting his parents to participate.

Pre and post measures of anxiety, depression and resilience were taken for each case study. These measures included the Multidimensional Anxiety Scale for Children, shortened version (MASC-10; March, 1997), the Child Depression Index shortened version (CDI-10; Kovacs, 2003), the Child, Youth Resilience Measure (CYRM; Ungar, 2008), the Resilience Scale for Adolescents (READ; Hjemdal et al., 2006) and the Strength and Difficulties Questionnaire (SDQ; Goodman, 1997). Each case study used a different combination of these measures to assess pre and post treatment. Pre-intervention measures were taken one week prior to the program; post-measures were taken at 12 months for all cases and 24 months for two of the cases. Similar to the FRIENDS project the participants were divided by level of anxiety (low, medium and high anxiety) for the purposes of data analysis. Post-intervention results showed that children with high and medium anxiety increased their resilience scores over time. Worsley (2014) suggests that these results demonstrate that the Doughnut can be used successfully to build resilience in adolescents.

The research regarding the Resilience Doughnut program has some methodological limitations. Like the FRIENDS Program, the Resilience Doughnut uses self-report measures to evaluate the efficacy of the program. This can be problematic, as various biases may affect the results, like social desirability bias. Participants may exaggerate their answers, or be too embarrassed to reveal private details. Participants, particularly children, may also forget pertinent details. Furthermore, self-report studies are inherently biased by the person's feelings at the time they filled out the questionnaire.
Another significant limitation of the research is that the author does not comment on the reliability or validity of the measures used. Some of the measures are well known, however one of the measures, the READ (Hjemdal, et al., 2006) has not yet been validated in Australian samples. Furthermore, the Worsley (2014) study used various different measures across the case studies, making it difficult to compare the results and formulate a strong evidence-base for the program. Worsley (2014) provided reasons for the different approaches, stating that each school was interested in different outcomes and that working with the school increased cooperation for the data collection. Despite these differences, the measures were highly correlated, and the statistical analysis of the data was appropriate. A final consideration is that the program was only implemented over one session. For ongoing learning and retention purposes, delivering the program over a several week period, similar to the FRIENDS program, may provide more robust findings. Also, considering the Barrett et al. (2006) results, implementing the Doughnut program with Year-6 children may provide the most profound outcomes.

The significant strength of the Resilience Doughnut program is that it has been developed using a solid theoretical basis. The model is clearly shaped around well-supported paradigms of resilience, and as such, there is little doubt that the program is targeted at enhancing resilience in children, in contrast to the FRIENDS program.

**Comparison of Australian Resilience Programs for Young People**

The FRIENDS program and the Resilience Doughnut are the two main resilience programs for children and adolescents in Australia. These two programs are similar in that they are positive interactive programs that promote resilience through teaching optimistic thinking skills. Both programs have been used within the school-context and have been successful in reducing self-reported anxiety among young people. However, several differences of the programs include that there is less empirical research into the Resilience Doughnut model and the implementation of the program has not been
standardised in the same way as the FRIENDS program. Another important difference of the two programs is that the Resilience Doughnut model clearly aims to develop resilience in children and adolescents and measures of resilience have been used to assess this. It is unclear whether the FRIENDS program is a program aimed at enhancing resilience or whether it is better characterised as a program aimed at managing anxiety through teaching CBT skills.

**Measures of Resilience in Youth**

Given that the importance of prevention programs, such as the FRIENDS and Resilience Doughnut, has been established, it is equally important to have valid and reliable measures that assess the program’s effectiveness. There are vast numbers of measurement scales designed to measure resilience (Windle, Bennett & Noyes, 2011). However, just like there is no single agreed definition of resilience, or agreed factors that build resilience, there is also no consensus of a preferred measure (Windle et al., 2011). A majority of the measurement scales are designed for use in adults. There has been recent growth in measures used for youth, specifically for ages 12-17 years (Ungar et al., 2008).

The Resilience Scale for Adolescents (READ; Hjemdal, et al., 2006) was a measure developed out of the Resilience Scale for Adults (RSA; Friborg, et al., 2003). Hjemdal, et al. (2006) states that resilience is made up of three broad categories of different factors. The first category is positive individual factors, such as intelligence, adaptive temperament, beliefs about self-worth and the future, and individual robust neurobiology. The second category is family support, which includes, functional family relationships, stable living situation, emotional support, low-level parental discord, parental warmth, care and secure attachment. The third category is a supportive environment outside the family. This refers to characteristics of the neighbourhood, school and other social supports and positive role models. Hjemdal et al. (2006) argue that previous measures
primarily focus on the first category, individual factors, where as the RSA and the READ are more comprehensive measures that consider all categories when measuring resilience.

The factors of the RSA measures were developed through content analysis of resilience factors. These factors were sorted into 13 groups that made up the three broad categories. Items in each of these categories were reduced through exploratory and confirmatory factor analysis to create a 33-item response form (Friborg & Hjemdal, 2004; Friborg, et al., 2003). The READ was adapted from the RSA for use specifically in the adolescent population. The items were tested on a group of adolescents in a pilot study, which resulted in changes to the wordings of the items to be more simplified and reduced the number of items, from a 33-item to a 28-item version. The pilot study also resulted in the creation of a Likert scale response (1 = totally disagree, 5 = totally agree). Five subscales of the READ were developed, (1) Personal Competence (2) Social Competence (3) Structured Style (4) Family Cohesion and (5) Social Resources. These five subscales fit within the three broad categories of individual factors, family support and environmental support, originally described by Hjemdal et al. (2006).

Hjemdal et al. (2006) and von Soest, Mossige, Stefansen & Hjemdal (2010) state that the READ is a valid and reliable measure, reporting Cronbach’s alpha between .69 and .85 for the subscales. Similarly, Hjemdal, Aune, Reinfjell, Stiles and Friborg (2007) and Worsley (2014) demonstrate that the READ has negative correlations with measures of negative life events such as depression symptoms, and it positively correlates with measures of other positive constructs. However, these studies have some significant limitations, including a lack of cultural and age diversity within the adolescent sample, and limited participant numbers.

There are a number of other scales designed to measure resilience in adolescents but only three (including the READ), measure resilience on multiple levels, not just personal attributes (Windle, et al., 2011). The Child and Youth Resilience Measure
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(CYRM; Ungar, et al., 2008) is one of these measures. The CYRM uses Ungar et al. (2008a) definition of resilience to develop a measure that is culturally and contextually relevant. A strength of this measure is that it was developed using youth from 11 different countries, allowing it to be the most culturally adaptable measure. However, this also presents a significant limitation, as the meaning of resilience can vary across cultures, and therefore, the reliability of the measure may be questionable (Windle et al., 2011).

The Youth Resiliency Scale: Assessing Developmental Strengths (YR:ADS; Donnon & Hammond, 2003 & 2007) is the other scale that measures resilience on multiple dimensions, including factors such as family, community, work commitment and learning, social sensitivity and self-concept. The multi-dimensionality is a strength of this measure, however, Windle et al. (2011) question the design of the measure, suggesting that YR:ADS lacks strong content validity as youth were not involved in the development of the tool. Windle et al. (2011) also suggest that the construct validity of the YR:ADS is unclear. It appears to have been developed with the purpose of creating resiliency profiles of individuals, and does not assess change of resilience over time.

Overall, Windle’s et al. (2011) methodological review assessed a number of these scales based on stringent validity and reliability criteria. Their results placed the READ as the most robust scale to use for the adolescent population, receiving a maximum score on content validity and construct validity. Whilst Windle et al. (2011) state that there is still no one gold standard instrument for measuring resilience in youth, the READ is the most psychometrically sound measure that is currently available. However, it was recommended that the selection of which measure to use in practice should be based on the aims of the research question.

Recommendations for Future Research

There appears to be a number of limitations to the two commonly used resilience programs for children and adolescents. One of the significant limitations of the FRIENDS
program was that it may not be a specific resilience-enhancing program, but rather is a program for treating anxiety in young people using CBT strategies. Future research could assess this in further detail through the use of resilience-specific measures, such as the READ (Hjemdal, et al., 2006). This may provide more information about the resilience-enhancing aspects of the program. Another suggestion for future studies is to use psychological and resilience measures from multiple informants, such as parents and teachers. This could be done in conjunction with self-report measures in order to provide a more holistic and accurate report of the young person’s presentation.

Further research also needs to be conducted to develop empirical evidence of the Resilience Doughnut model. It is recommended that a standardised approach be used to implement programs based on the Resilience Doughnut. This may include developing a specific program manual that contains fidelity checklists. Having a standardised program may provide more comparable results, and increase the reliability and validity of the program’s reported results.

Another consideration for future research of the Resilience Doughnut includes implementing the program over a period of time, rather than in one session. The program could be implemented in one-hour sessions over several weeks, allowing for revision of content to consolidate learning. Furthermore, completing the program over several weeks may provide the opportunity for participants to generalise the skills learned into their everyday life circumstances and then reflect on these moments during the following week’s session.

Finally, implementing the program among primary school aged children, in addition to adolescents, may be a direction for future research. Barrett et al. (2006) found that their program had the most significant impact on students in late primary school. Implementing the Resilience Doughnut with this population could support Barrett’s et al
(2006) theory that there is an optimal age for implementing Resilience Programs to maximise their effectiveness.

**Summary**

In conclusion, developing evidence-based intervention programs is vitally important for use within non-clinical child and adolescent populations. As Barrett et al. (2014) stated that universal prevention programs have the potential to be positive and proactive in supporting an individual’s ability to overcome adversity. There are a number of theoretical foundations of resilience, but it is generally accepted that resilience is developed through both internal resources, such as personal characteristics and skills, and external factors, such as the environment, social and educational factors.

Recommendations for future research for the FRIENDS Program include using resilience-specific measures to evaluate the effectiveness of the program. Recommendations for the programs associated with the Resilience Doughnut model include standardising the implementation of the programs, implementing the programs over several weeks for shorter sessions, and using the program within a primary school aged population. Overall, there is a need to expand the empirical evidence for the Resilience Doughnut model programs.