The Case for Health Behaviour Model Comparison and Theoretical Integration: Comparing and Combining Predictions of Models in Order to Optimise the Prediction of Health Behaviours

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Statement of Originality

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.

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Acknowledgements

I would like to acknowledge and thank the following people for their contribution to this thesis and/or for maintaining my sanity throughout the writing process. My research supervisor, Rev. Dr. Martin P. Johnson has provided me with excellent research supervision and guidance; and been instrumental in developing and implementing the research projects presented herein, developing my writing and critical thinking skills and guiding my engagement with the relevant literature. He has also consistently gone beyond the call of duty adopting the role of a friend, confidant, therapist and motivational speaker when necessary. He has continued to believe in me even during the times that I did not believe in myself. I cannot imagine completing my PhD thesis without his patient guidance and support. Research assistants, collaborators and honours and post graduate students including Jane Wheatley, Dr. Andrew Rutherford, Nathan Beehag, Jody Richards, Laura Twyman, Ursula Wright and Jodie Poole also assisted in the implementation and data collection for the research projects presented herein. Kim Witte and Natascha de Hoog both provided me with extra information regarding their research methods which was helpful in the development of the health messages and measures utilised in the studies presented herein.

My mother, Kim Richards, and father, Rob Richards, have both loved and supported me unconditionally throughout my undergraduate and postgraduate study. My wife, Jody Richards, has also been very supportive and loving. She has also endured numerous frustrated outbursts and long pointless discussions regarding whether I will ever finish writing and how difficult it all is. She has also given up so much so that I could complete my PhD and has never asked for anything in return. I can only hope to repay this kindness – I love you more than words can express. Finally to my son, Nolan James Richards, you are the light of my life and my favourite little guy. You make me
smile and laugh like nobody else can, even when everything else seems bleak. I love you always.

Thank you all for your guidance, patience and support. This thesis would not have been completed without each and every one of you.
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Avoid fast food

Avoid soft drink

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Exercise 30 mins

Healthy diet

Avoid foods high in fat

Avoid fast food

Avoid soft drink

Avoid foods high in sugar
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Avoid foods high in fat

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List of Common Abbreviations Used in this Thesis

ABS – Australian Bureau of Statistics

AIC – Akaike Information Criterion

AIHW – Australian Institute of Health and Welfare

BMI – Body Mass Index

DoHA – Department of Health and Aging (Australia)

EIM – Extended Integrated Model

ELM – Elaboration Likelihood Model

EPPM – Extended Parallel Process Model

HBT – Health behaviour theory

HSM – Heuristic-Systematic Model

IN*MTC – Injunctive norms * Motivation to comply interaction term

NHMRC – National Health and Medical Research Council

NRT – Nicotine Replacement Therapy

OECD – Organisation for Economic Co-operation and Development

PBC – Perceived Behavioural Control

PMT – Protection Motivation Theory

PMT-R – Revised form of Protection Motivation Theory (i.e., Rogers, 1983)

RPA – Risk Perception Attitude Framework
TPB – Theory of Planned Behaviour

TRA – Theory of Reasoned Action

WHO – World Health Organisation
Abstract

The health behaviour literature is currently littered with theoretical models offering competing accounts of the determinants of health behaviour. However, despite the large amount of research there is still no consensus regarding which model/s are the most useful and accurate. A reason for this is that there are few studies comparing these models for their effectiveness in explaining health behaviour. One method of determining which health behaviour models are superior is directly comparing models for accuracy. Another method of improving the prediction of health behaviour may be theoretical integration – that is combining predictions of multiple models within the rich health behaviour literature in order to develop an integrated model with greater explanatory power than its constituent models. The four research studies presented herein represent examples of how model comparison and theoretical integration may be applied to identify the existing health behaviour models with greatest explanatory power and to increase the explanatory power of such models respectively.

Study 1 investigates how fear-based messages impact on individuals’ health knowledge. It also investigates whether health knowledge contributes to the prediction of intentions to exercise or adopt a healthy diet after controlling for Protection Motivation Theory constructs. Results suggest that fear-based messages do not affect information retention and that health knowledge does not explain unique variance in behavioural intentions.

Studies 2 and 3 compared the predictions of the Theory of Planned Behaviour and Protection Motivation Theory. Study 2 was conducted in the context of smoking and Study 3 was conducted in the context of diet and exercise. An integrated model which combined the predictions of the Theory of Planned Behaviour and Protection Motivation Theory was also devised and tested. Results of both studies suggested that
the Theory of Planned Behaviour was the superior model – performing equivalently or better than Protection Motivation Theory in terms of accuracy for all health behaviours investigated. Investigating the integrated model highlighted relationships between constructs of both theories – most notably a consistent relationship between response-efficacy and attitudes.

Finally, in Study 4 an integrated model combining the predictions of the Extended Parallel Process Model, Theory of Planned Behaviour, Stage Model and Risk Perception Attitude Framework is devised and tested. This model attempted to explain individuals’ responses to a fear-provoking health message based on their existing psychological characteristics and the message components. It was found that fear-provoking messages elicited little change in individuals’ perceptions of threat and efficacy and their attitudes and intentions. However, fear-provoking messages were associated with greater fear and maladaptive defensive responses – especially in those who were not already engaging in health protective behaviour. Numerous heretofore undiscovered associations between constructs of these models (e.g., individuals’ thoughts concerning the fear-provoking health message [Stage Model] being associated with reactance, defensive avoidance, self- and response-efficacy [Extended Parallel Process Model]) were also highlighted as a result of investigating the predictions of the integrated model. Taken together these findings suggest that model comparison can be utilised to identify the superior model from a candidate set of models. Further, theoretical integration can be utilised to increase the explanatory power of existing health behaviour models. Implications for theory and practice are discussed at length.