

EHPS Herman Schaalma PhD Award

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Summary of PhD thesis

Physical inactivity is a serious concern worldwide. Despite the numerous benefits of performing regular physical activity (PA), many individuals lead sedentary lifestyles. Of concern, though, is research showing that certain population sub-groups are less likely to be active, such as parents of young children. Although there is a vast amount of research dedicated to understanding the PA-related behaviours of adults in general, there is a paucity of research examining those factors that influence parental PA. More importantly, research applying theoretical models to understand PA decision making among this at-risk population is limited. Given the current obesity epidemic, the decline in PA with parenthood, and the many social and health benefits associated with regular PA, it is important that adults with young children are sufficiently active. In light of the dearth of research examining parental PA and the scant applications of a theory-based approach to gain this understanding, the overarching aim of the thesis was to adopt a mixed methods approach using sound theoretical frameworks to understand the regular PA behaviour of mothers and fathers with young children.

This thesis comprised of three distinct stages: a qualitative stage exploring individual, social, and psychological factors that influence parental PA (Stage 1); a quantitative stage identifying the important predictors of parental PA intentions and behaviour using sound theoretical frameworks and testing a single-item measure for assessing parental PA behaviour (Stage 2); and a final qualitative stage exploring strategies for an intervention program aimed at increasing parental PA (Stage 3). As a thesis by publication, eight papers report the findings of this research program; these papers are presented according to the distinct stages of investigation that guided this thesis.

Stage One comprised a qualitative investigation using a focus group/interview methodology with parents of children younger than 5 years of age ($N = 40$; $n = 21$ mothers, $n = 19$ fathers) (Papers 1, 2, and 3). Drawing broadly on a social constructionist approach (Paper 1), thematic analytic methods revealed parents' understandings of PA (e.g., requires effort), patterns of PA-related behaviours (e.g., grab it when you can, declining PA habits), and how constructions of social role expectations might influence parents' PA decision making (e.g., creating an active family culture, guilt and selfishness). Drawing on the belief-based framework of the theory of planned behaviour (TPB) (Paper 2), parents' commonly held beliefs about the advantages (e.g., improves parenting practices), disadvantages (e.g., interferes with commitments), barriers (e.g., time), and facilitators (e.g., social support) to performing PA were revealed. Parents' normative beliefs about social approval from important others (e.g., spouse/partner) were also identified. Guided by theories of social support, Paper Three identified parents' perceptions about the specific social support dimensions that influence their PA decision making. Parents identified instrumental (e.g., childcare, helping with chores), emotional (e.g., encouragement, companionship), and informational support (e.g., ideas, advice) as important for their decisions to be regularly active. Parents revealed also that having support for being active is not straightforward (e.g., guilt-related issues inhibited the facilitative nature of support for PA).

Stage Two comprised a quantitative examination of parents' PA intentions and behaviour (Papers 4, 5, 6, and 7). Parents completed an extended TPB questionnaire at Time 1 ($N = 580$; $n = 288$ mothers, $n = 292$ fathers) and self-reported their PA at Time 2, 1 week later ($N = 458$; $n = 252$ mothers, $n = 206$ fathers). Paper Four revealed key behavioural (e.g., improving parenting practices), normative (e.g., people I exercise with), and control (e.g., lack of time) beliefs as significant independent predictors of parental PA. A test of the TPB augmented to include the constructs of self-determined motivation and planning was assessed in Paper Five. The findings revealed that the effect of self-determined motivation on intention

was fully mediated by the TPB variables and the impact of intention on behaviour was partially mediated by the planning variables. Slight differences in the model's motivational sequence between the sexes were also noted. Paper Six investigated, within a TPB framework, a range of social influences on parents' intentions to be active. For both sexes, attitude, perceived behavioural control, group norms, friend general support, and an active parent identity predicted intentions, with subjective norms and family support further predicting mothers' intentions and descriptive norms further predicting fathers' intentions. Finally, the measurement of parental PA was investigated in Paper Seven. The results showed that parents are at risk of low levels of PA, with the findings also revealing validation support for a brief single-item PA measure.

Stage Three comprised a qualitative examination of parents' ($N = 12$; $n = 6$ mothers, $n = 6$ fathers) ideas for strategies that may be useful for developing and delivering an intervention program aimed at increasing parental PA (Paper 8). Parents revealed a range of strategies (e.g., skill-based strategies to generate flexible life/family plans, environmental approaches accessing parents to community-based parent/child programs) as potentially useful techniques to employ. Additionally, a range of strategies for how to best deliver a parental PA intervention was discussed in which on-line discussions supplemented by brief face-to-face interactions and text messages (SMSs) were strategies revealed for effective delivery of such a program. Taken as a whole, Paper Eight found that adopting an interactive, multi-component electronic-health and SMS-based intervention may prove useful in increasing parental PA.

Overall, this thesis found support for parents as a unique group who hold both similar and distinctive perceptions about regular PA to the general adult population and highlight the importance of targeting intervention strategies for parents of young children. The findings suggest that it might also be useful to tailor some messages specifically to each sex. Effective promotion of PA in parents is essential given the low rate of activity in this population. Results

from this thesis provide an important first step in identifying the factors that influence both mothers' and fathers' PA decision making. These findings, in turn, provide a foundation on which to build effective intervention programs aimed at increasing parents' regular PA which is essential for ensuring the health and well-being of parents with young children.

Highlight how the research in the thesis contributes to the field highlighting the originality, significance and rigour of the work (500 words)

This thesis is one of the first to investigate, within sound theoretical frameworks, the PA behaviour of mothers and fathers with young children. Although previous investigations into this behaviour in this at-risk group have been undertaken, the examination of both sexes and the mixed methods approach of this thesis allowed for a more complete understanding of the issues that parents face in relation to their PA. The results of the three-stage thesis revealed the importance of giving parents a voice on this issue and the role of motives, beliefs, social cognitions, and plans as well as caveats (e.g., guilt-related issues) to these PA decision-making processes. This thesis addresses a number of criticisms of the extant PA literature including the investigation of an at-risk group for inactivity which is not well researched, the adoption of sound theoretical approaches to gain this understanding, and adopting a mixed methods framework to understand better parental PA. The findings contribute substantially to the PA literature both in a theoretical and an applied sense.

More specifically, the rich qualitative data extends our knowledge of the extent to which parents find it difficult to be regularly active and the range of issues that contribute to a lack of PA. The thesis also provides an important first contribution of integrating three complementary theoretical frameworks (i.e., self-determined motivation from SDT, planning from HAPA, and TPB) to help in our understanding of parental PA from belief initiation through to behavioural enactment. This unification of ideas provides a more effective approach to understanding parental PA which can serve to guide, more effectively, at what point in the PA decision-making process interventions might be most useful for parents of young children. The findings also support the examination of a range of social influences in understanding parental PA. Given the significant role of many of the social influences over and above that of the TPB social variable (i.e., subjective norms), this thesis highlights the theoretical ramifications of extending the TPB to include those social influences thought to be

important to the target population as well as considering the sex of the individual in examining those influences. Finally, given the lack of consensus on a consistent approach to support maintenance of people's PA behaviour, the qualitative findings in this thesis adds to the literature by providing rich insight as to what to include in and how to best deliver a resultant parental PA intervention, thus helping to translate theoretical knowledge into practice.

It is imperative that parents become sufficiently active not only to maximise the benefits to their own health and well-being but to maximise also the healthy lifestyle practices for other family members. This thesis represents an important step toward achieving this aim and provides a significant contribution in identifying the key targets for future interventions designed to increase parental PA. The findings of this thesis and continued investigations may serve to increase the PA behaviour in parents of young children who comprise an important, but often overlooked at-risk group for inactivity.

List of submitted/published papers based on the PhD (including conference presentations)

PEER REVIEWED PUBLICATIONS

Total publications from thesis = 8; 7 published/in press and 1 revise & resubmit

ACCEPTED / IN PRESS

1. **Hamilton, K.,** & White, K. M. (in press). Social influences and the physical activity intentions of parents of young-children families: an extended Theory of Planned Behaviour approach. *Journal of Family Issues*. doi:10.1177/0192513X12437151. (JIF: 1.264, ERA B). **Paper 6**
2. **Hamilton, K.,** White, K. M., & Cuddihy, T. (in press). Validating and describing parents' physical activity patterns using a single-item physical activity measure tailored to current guidelines. *Research Quarterly for Exercise and Sport* (JIF: 1.191, ERA B). **Paper 7**

2012

3. **Hamilton, K.,** Cox, S. & White, K. M., (2012). Testing a model of physical activity among mothers and fathers of young children: integrating self-determined motivation, planning, and theory of planned behavior. *Journal of Sport & Exercise Psychology*, 34(1), 124-145. (JIF: 2.823, ERA B). **Paper 5**

2011

4. **Hamilton, K.,** & White, K. M. (2011). Identifying key belief-based targets for promoting regular physical activity among mothers and fathers with young children. *Journal of Science and Medicine in Sport*, 14, 135-142. (JIF: 2.542, ERA A). **Paper 4**

2010

5. **Hamilton, K.,** & White, K. M. (2010). Parental physical activity: The role of social support. *American Journal of Health Behavior*, 34(5), 573-584. (JIF: 1.295, ERA C). **Paper 3**
6. **Hamilton, K.,** & White, K. M. (2010). Understanding parental physical activity: Meanings, habits, and social role influence. *Psychology of Sport and Exercise*, 11(4), 275-285. (JIF: 2.218, ERA B). **Paper 1**
7. **Hamilton, K.,** & White, K. M. (2010). Identifying parents' perceptions about physical activity: A qualitative exploration of salient behavioural, normative, and control beliefs. *Journal of Health Psychology*, 15(8), 1157-1169. (JIF: 1.542, ERA B). **Paper 2**

PAPERS UNDER REVIEW

8. Hamilton, K., & White, K. M. (revise & resubmit). Strategies for developing and delivering a parental physical activity intervention: answers to the what and how. **Paper 8**

PEER REVIEWED CONFERENCE PRESENTATIONS

Total presentations = 8, including 5 international and 3 national conferences.

REFEREED CONFERENCE PRESENTATIONS

1. **Hamilton, K.,** & White, K. (2012). Strategies for implementing a parental physical activity intervention: answers to the what and how. Oral Paper presented at the 26th Conference of the European Health Psychology Society, 21-25 August 2012, Prague, Czech Republic.

2. **Hamilton, K., & White, K.M. (2010).** Identifying key belief-based targets for promoting regular physical activity among mothers and fathers with young children. Poster presented at the *Institute of Health and Biomedical Innovation IHBI Inspires Conference*, 25-26 November, Gold Coast, Australia. [awarded best poster presentation]
3. **Hamilton, K., & White, K.M. (2010).** Towards a model of parental physical activity: integrating measures of self-determination and planning within the theory of planned behaviour. Oral Paper presented at the 24th *European Health Psychology Society Conference*, 1-4 September, Cluj-Napoca, Romania.
4. **Hamilton, K., & White, K.M. (2010).** Identifying important social influences on parents' intentions to perform regular physical activity. Oral Paper presented at the *British Psychological Society: Division of Social Psychology*, 7-9 September, Winchester, United Kingdom.
5. **Hamilton, K., & White, K.M. (2010).** Identifying beliefs that differentiate between strong and weak intenders for engaging in regular moderate-intensity physical activity among mothers and fathers with young children. Oral Paper presented at the *British Psychological Society: Division of Health Psychology*, 15-17 September, Belfast, Ireland.
6. **Hamilton, K., & White, K.M. (2009).** A qualitative study of parental physical activity: exploring the influence of social support and normative expectations. Poster presented at the *Seventh National Physical Activity Conference*, 14-17 October, Brisbane, Australia.
7. **Hamilton, K., & White, K.M. (2009).** A qualitative study of mothers' perceptions of regular physical activity performance. Poster presented at the *Heart Foundation Conference*, 14-16 May, Brisbane, Australia.
8. **Hamilton, K., & White, K.M. (2009).** A qualitative analysis of the beliefs and perceptions about physical activity among parents of young children. Oral Paper presented at the *Society of Australasian Social Psychologists 39th Annual Conference*, 16-19 April, Melbourne, Australia.