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Cross-generational physical activity: exploring the experiences of primary-school-aged children and their parents

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CERTIFICATE OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

Signed:
Name: Kate Freire
Date: 22 August 2017
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Finally, to my family for their support. To Raf, Tom and Alex, thank you for your love, support and helping me to maintain a balance towards life throughout the research. Dad, time ran out, but I know you would have been thrilled to see it finished.
ETHICS

The studies in this research program were approved by the Charles Sturt University Human Research Ethics Committee. Protocol numbers 2012/126 and 2013/127. Approval letters are shown as Appendix A on page 302.
PAID EDITORIAL ASSISTANCE

Paid editorial assistance for this thesis was obtained from Dr. Clare Wilding (occupational therapist and academic). Dr Wilding provided professional editing limited to formatting, grammar and style (Australian Standard for Editing Practice ASEP Standard D - Language and Illustrations, ASEP Standard E - Completeness and Consistency) and did not alter or improve the substantive content or conceptual organisation of the thesis.
ABSTRACT

The aims of this program of research were to deepen current understanding of cross-generational physical activity (cross-gen PA) from the perspectives of primary school aged children and their parents and examine factors that influence engagement in cross-gen PA. Low engagement in physical activity (PA) is an important worldwide issue and children and parents are two important populations. Although previous research has examined factors that influence PA engagement of each population separately, little is known about how and why children and parents engage in PA together. The majority of studies that have investigated cross-gen PA have examined the phenomenon in only one dimension, as a component of parental support for a child’s PA.

The program of research, informed by a social ecological framework (Sallis & Owen, 1997), examined cross-gen PA as a PA partnership between a child and parent. Using a mixed method, exploratory approach, data were collected from both child and parent participants within a single, geographically-defined area of regional New South Wales, Australia. Two studies examined the experience of cross-gen PA and factors that influenced engagement in cross-gen PA, guided by the following research questions.

Study One – Survey of cross-gen PA

1. What form does cross-gen PA take when performed by primary school aged children and their parents?
2. Do children and parents perform any components of their ‘general’ PA as cross-gen PA?
3. What factors influence primary school aged children and parents to engage or not engage in cross-gen PA?
4. What do primary school aged children and parents like and dislike about cross-gen PA?

Study Two – Hermeneutic study

5. Why do children and parents perform PA together?
6. What factors influence child and parent engagement in cross-gen PA?
7. What is the experience of cross-gen PA from both a child and parent perspective?

The findings from the program of research challenge three major assumptions found in cross-gen PA research. First, this research found that rather than being focussed on physicality, cross-gen PA is often more about the child-parent relationship than the PA itself. This finding explains why both children and parents valued their PA together, even if it was an infrequent occurrence. Both populations acknowledged the health benefits from engaging in PA together, but these benefits were often a secondary consideration to other factors, such as bonding.

Second, contrary to what is usually assumed in PA research, this research found that cross-gen PA was a complex behaviour, consisting of more than just parental support for a child’s PA. Although children were found to raise themes common to parents, they also raised themes unique to the child. This demonstrates that the parent’s voice should not be used as a substitute for the child’s voice in research.

Finally, the assumption that parents are the gatekeepers of their child’s PA was challenged, as this research found that cross-gen PA was co-constructed.

Synthesis of the findings from this research led to the development of a model of cross-gen PA consistent with the social ecological framework that informed the research. The model shows the evolving nature of cross-gen PA and its role in influencing relationships and PA partnerships within the family context. Future health promotion and research should consider not just the physical benefits of cross-gen PA but also the relationship benefits, in order to provide a fuller picture of the phenomenon.
CHAPTER ONE
INTRODUCTION TO THE RESEARCH

Introduction

This thesis addresses the research gap in understanding of the cross-generational physical activity partnership. Cross-generational PA (here after known as *cross-gen PA*) constitutes a familiar but little-researched PA partnership involving children and their parents. Specifically, the thesis contributes to knowledge and understanding of both physical activity (PA) behaviour and child and parent wellbeing by exploring the cross-generational PA partnerships that exist between primary school aged children and their parents. PA and wellbeing are inextricably linked (Lubans et al., 2016). The research reported in this thesis employed a mixed methods, exploratory design, in which qualitative findings built upon the results of a quantitative study.

The background to the research and definitions of key terms are introduced at the beginning of this chapter. The methodological rationale is then presented prior to an overview of the mixed methods approach used in the program of research. The chapter finishes with a brief overview of each of the subsequent chapters contained within the thesis.

Background to the research

There is general consensus in the PA research literature that regular PA leads to many health benefits for both children and adults. For example, a recent systematic review of 162 papers found beneficial relationships between PA and health indicators such as adiposity, cardiometabolic biomarkers, physical fitness and bone health in school-aged children and youth (Poitras et al., 2016). Another recent systematic review of twenty-five papers examining the relationships between PA and cognitive and mental health in youth (5-18 years) found positive associations between PA and both physical self-perceptions and self-esteem (Lubans et al., 2016).
Yet, in Australia and worldwide, many children and adults do not perform adequate PA to maintain their health (Australian Bureau of Statistics, 2011a; Bauman et al., 2012). In addition, surveys have shown that parents with dependent children consistently perform less PA than adults without those responsibilities (Armstrong, Bauman & Davies, 2000; Australian Bureau of Statistics, 2011a). Insufficient PA has been identified as the fourth leading cause of death worldwide and is recognised as one of the most important modifiable risk factors for chronic disease (Kohl et al., 2012). The World Health Organisation (WHO) has noted that, globally, insufficient PA is estimated to cause up to 25% of breast and colon cancers, 27% of diabetes cases and 30% of ischaemic heart disease cases (World Health Organisation, 2009). Therefore, as the risk of chronic disease starts in childhood and increases throughout life, it is important that health promotion targeting PA encompasses people of all ages (Warburton, Nicol & Bredin, 2006).

Australia, in line with many other countries, has produced age-categorised guidelines for minimum levels of PA, which are based on findings of systematic reviews and consultation with selected panels of experts (Canadian Society for Exercise Physiology, 2011; Okley, Salmon, Vella, Cliff & Timperio, 2012). In 2012, at the commencement of the program of research reported in this thesis, the Australian PA guidelines for children and adults were presented on two separate leaflets. These guidelines are summarised in Tables 1.1 and 1.2 (Australian Government, 2004; Australian Government, 2005).

Table 1.1. Summary of recommended PA levels in the Australian PA guidelines for children and adults (Australian Government, 2004; Australian Government, 2005).

<table>
<thead>
<tr>
<th>Guide age range</th>
<th>Summary of guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children, 5-12 years</td>
<td>• Daily minimum of 60 minutes of PA</td>
</tr>
<tr>
<td></td>
<td>• Combination of moderate to vigorous PA</td>
</tr>
<tr>
<td>Adults, 18-64 years</td>
<td>• Accumulate 30 minutes of moderate PA on most days AND</td>
</tr>
<tr>
<td></td>
<td>• “Regular, vigorous activity for extra health &amp; fitness”</td>
</tr>
</tbody>
</table>
Table 1.2. Comparisons of definitions of moderate and vigorous PA for children and adults in the Australian PA guidelines (Australian Government, 2004; Australian Government, 2005).

<table>
<thead>
<tr>
<th>Guide age range</th>
<th>Definition of moderate PA</th>
<th>Definition of vigorous PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children, 5-12 years</td>
<td>Intensity of brisk walk. For example, bike ride &amp; any sort of active play.</td>
<td>At an intensity to make children “huff &amp; puff”. For example, organised sports (e.g. football, netball) &amp; PA such as ballet, running &amp; swimming laps.</td>
</tr>
<tr>
<td>Adults, 18-64 years</td>
<td>At an intensity to slightly increase breathing &amp; heart rates. For example, brisk walking, bike riding &amp; mowing the lawn.</td>
<td>At an intensity to make adults “huff &amp; puff”. For example, sports such as football, squash, aerobics, fast cycling &amp; running.</td>
</tr>
</tbody>
</table>

Of importance, the PA guidelines for children aged 5-12 years were addressed in a leaflet to their parents (Australian Government, 2004). The leaflet focussed upon advice that parents need to “role model” PA for children. Despite some overlap between the PA activity levels presented in the child and adult guidelines, no advice was provided to suggest specifically that parents performing PA with their children could be a useful strategy to increase adult and child compliance with the respective PA guidelines. The PA guidelines emphasised the minimum amount of PA an individual is recommended to achieve. This is deemed to be an important public health promotion strategy, as a relationship has been found between the amount of moderate to vigorous PA undertaken and risk of chronic disease. Increasing levels of moderate to vigorous PA results in a reduced risk of chronic disease (Warburton, Nicol & Bredin, 2006).

Australia, alongside other countries worldwide, has continued to update its PA guidelines. Recent changes to Australian PA guidelines have included additional prescriptions for muscle and bone strengthening, and the introduction of sedentary behaviour guidelines for both children and adults (Australian Government, 2014a). Australia’s most recent update to its PA guidelines for all age groups was presented in separate brochures for each age group, and was also contained in a brochure entitled, “Is your family missing out on the benefits of being active every day?” (Australian Government, 2014b). Displaying the PA recommendations for all age groups in one brochure allows families to identify overlaps
in recommended PA durations and intensities across age groups. Although a statement at the end of the brochure encourages families to “Set aside time to be active together as a family”, little advice is provided on how families could achieve their PA together. The focus of the brochure rests on the respective guidelines for people in different age groups. The brochure does advise parents to “be a good role model” for their family and suggests that engaging in PA as a family provides opportunities for family members to “have fun together” (Australian Government, 2014a).

Although social support is acknowledged as an important factor for engagement in PA by both children (DiLorenzo, Stucky-Ropp, Vander Wal, & Gotham, 1998) and adults (Trost, Owen, Bauman, Sallis, & Brown, 2002), the findings of the narrative literature review reported in Chapter Two of this thesis and the lack of information provided in family PA brochures suggest that little is known about how and why children and parents perform PA together. Thus, the aims of the research reported in this thesis, were to deepen current understanding of cross-gen PA from the perspectives of primary school-aged children and their parents and examine factors that influence engagement in cross-gen PA.

**Definitions**

The program of research was designed to be exploratory and thus it was considered important to use a broad definition of PA that would encompass all intensities of PA - light, moderate and vigorous. Although there is a dose response relationship between PA and its health benefits (Warburton, Nicol, & Bredin, 2006), it is important to note that light PA has been found to have health benefits over sedentary behaviour (Chastin, Palarea-Albaladejo, Dontje & Skelton, 2015). The role that light PA plays in health has been acknowledged recently in Canada’s 24-hour movement guidelines, which provide recommendations in four key areas: moderate to vigorous PA, light PA, sleep, and sedentary behaviour (Tremblay et al. 2016). The program of research described in this thesis adopted the WHO definition of PA: “bodily movement produced by skeletal muscles that requires energy expenditure” (World Health Organisation, 2005). Under this definition, activities such as housework, gardening, active transport, play, and PA performed at work, as well as sport and exercise, are all included.
In the current program of research the term cross-gen PA has been used to describe the PA partnership between children and parents; that is, the PA that is shared between at least one child and at least one parent. The narrative literature review reported in Chapter Two notes that multiple terms have been used to describe cross-gen PA, but many of these terms were considered operationally difficult or confusing to use in this program of research. For example, the terms “role modelling” and “explicit role modelling” suggest a unidirectional relationship involving demonstration by a parent to a child. In addition, previous literature has measured role modelling of PA by parents by assessing the total amount of PA a parent performs, whether it is directly witnessed or not by the child (Wright, Wilson, Griffin & Evans, 2010). In contrast, cross-gen PA refers only to PA shared by a child and parent and, under this definition, PA performed by a parent and witnessed (but not engaged in) by a child or vice versa is not cross-gen PA. The term “family PA” (Rhodes, Naylor & McKay, 2010) is also operationally difficult, as there are many possible definitions of the term “family”. In addition, a recent study found that in families involving two parents, the parents often operated individually to accommodate the needs of their children (Thompson et al., 2009). Therefore, the term “family PA” did not encompass all possible PA interactions between a child and parent, as it suggests PA in which all or several family members participate together. Thus, for precision in the current program of research, the term “family PA” was not used when describing PA involving children and parents together.

Finally, for clarity, when the terms “child” or “children” are used in this thesis, they refer to children aged 5-12 years, which is the age range encompassing most primary school children in Australia and is the age range covered by the Australian Government PA guidelines (Australian Government, 2004). The term “parent” or “parents”, when used in this thesis, refers to a parent, step-parent, or main carer of a child who resides with them.

**Rationale behind the chosen methods**

The research was conducted with two key considerations in mind. First, it became apparent after the narrative literature review was completed (Chapter Two) that previous
research about cross-gen PA had predominantly focused on the role of cross-gen PA as one element of parental support for a child’s PA. Consequently, a need was identified for an exploratory program of research that could remain open to all aspects of cross-gen PA, including, but not limited to, parental support for a child’s PA. Secondly, children are essential participants in cross-gen PA, but their roles within the cross-gen PA partnership were unknown. This program of research was therefore specifically designed to examine cross-gen PA and was informed by social ecological theory (Sallis & Owen, 1997), enabling exploration of the cross-gen PA partnership as a potentially reciprocal relationship that was affecting and affected by the context in which it occurred. It was imperative to choose methodologies that would be fair, respectful and inclusive to all participants taking part, including children as well as parents. Such research will usefully inform understanding of the PA that occurs between members of these two populations, which have both been found to be at risk of physical inactivity (Australian Bureau of Statistics 2011a, 2011b).

The use of a mixed methods approach

Human phenomena, such as cross-gen PA, are multi-dimensional. Thus, understanding may be inadequate if the phenomenon is viewed in a single dimension or a single paradigmatic tradition (Mason, 2006). Mixed methods research uses more than one way of viewing, interpreting and knowing and therefore can lead to better understanding of complex human phenomena (Johnson & Gray, 2010). A mixed sequential research approach (Creswell, 2009) was adopted in this program of research, in order to gain a comprehensive picture and deeper understanding of cross-gen PA as it currently exists in a regional population of primary school-aged children and their parents in Australia.

The research design was deliberately chosen to be exploratory in nature because of the narrow focus of previous literature relating to cross-gen PA. Therefore, there was no intention to test specific hypotheses. In Study One, child and parent surveys were developed and administered to gather foundational descriptive information about cross-gen PA. Results from Study One informed the design of focus groups, in-depth interviews and family unit interviews used in Study Two, which was a hermeneutic study. Participants
from Study One also formed a pool of potential participants for the subsequent study, who were invited to talk about their experiences of cross-gen PA in more depth in Study Two. Figure 1.3 provides a visual representation of the chronological order of the methodologies, methods and analyses of both studies contained within the thesis.

<table>
<thead>
<tr>
<th>STUDY ONE</th>
<th>STUDY TWO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>Hermeneutics</td>
</tr>
<tr>
<td>Separate child &amp; parent questionnaires</td>
<td>Separate child &amp; parent focus groups, family unit interviews &amp; in-depth interviews</td>
</tr>
<tr>
<td>Data collection</td>
<td>Data collection</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Data analysis</td>
</tr>
</tbody>
</table>

(Adapted from Cresswell, 2009)

Figure 1.1. Chronological order of methodology, methods and analysis.

Using mixed methods facilitates triangulation. Triangulating data obtained by different methods adds strength to a study and provides a more in-depth understanding of a phenomenon (Patton, 2002). As will be described in detail later in the thesis, several strategies of triangulation were employed in this program of research, including use of two methodologies (survey and hermeneutics), multiple methods (questionnaires, focus groups, in-depth interviews, and family unit interviews) and data collection from different schools and families.
Overview of thesis

The thesis is presented in eight chapters, and the structure is summarised in Table 1.3.

Table 1.3. Overview of thesis chapters.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Introduction to the research</td>
<td>Introduction and rationale for mixed method approach</td>
</tr>
<tr>
<td>Two</td>
<td>Narrative review of the literature investigating cross-gen PA</td>
<td>Review of literature published over the last decade</td>
</tr>
<tr>
<td>Three</td>
<td>Study One – a survey of cross-gen PA</td>
<td>Overview of cross-gen PA occurring within a specified geographical area of regional NSW</td>
</tr>
<tr>
<td>Four</td>
<td>Study Two – Exploring cross-gen PA experiences of children and parents</td>
<td>Research approach for Study Two, including ontology, epistemology, theoretical framework, hermeneutic methodology, and specific methods.</td>
</tr>
</tbody>
</table>

Chapters Five to Seven explore the findings from Study Two across three levels:

<table>
<thead>
<tr>
<th>Five</th>
<th>The family’s fabric and cross-gen PA</th>
<th>The family level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six</td>
<td>A PA partnership within a relationship</td>
<td>The child-parent relationship level</td>
</tr>
<tr>
<td>Seven</td>
<td>Two individuals sharing cross-gen PA</td>
<td>The individual level</td>
</tr>
</tbody>
</table>

| Eight   | Discussion and recommendations | Discussion of the main findings, their implications and a resulting ecological model of cross-gen PA. The chapter concludes with the strengths and limitations of the program of research, recommendations, and a concluding reflection. |
CHAPTER TWO

NARRATIVE REVIEW OF THE LITERATURE
INVESTIGATING CROSS-GENERATIONAL PHYSICAL ACTIVITY

Introduction

Insufficient PA has been identified as one of the most important modifiable risk factors for chronic diseases (World Health Organisation, 2005). The benefits of regular PA have been found to extend beyond disease prevention to many other social, mental and physical health benefits for both children and adults. For example, children with higher PA levels have been found to achieve better results at school, possess increased self-confidence and have healthier cardiovascular profiles (Boreham & Riddoch, 2001). Yet, large proportions of both children and adults in Australia undertake less PA than is recommended (Australian Bureau of Statistics, 2011b), and surveys have shown that parents with dependent children consistently perform less PA than adults without those responsibilities (Australian Bureau of Statistics, 2011a). Cross-gen PA is situated at the nexus between child and adult PA, connecting the two, and thus may provide one way of increasing child and adult PA.

In order to begin to elucidate the phenomenon of cross-gen PA, this chapter will first consider the findings of several previous systematic reviews that have reported on cross-gen PA as one of various types of parental support for child PA. Then follows a structured narrative review of recent, original research that will shed further light on contemporary observations of cross-gen PA.

Over the last decade, four systematic reviews (Gustafson & Rhodes, 2006; O’Connor, Jago & Baranowski, 2009; Beets, Cardinal & Alderman, 2010; Sleddens et al., 2012) and two meta-analyses (Pugliese & Tinsley, 2007; Yao & Rhodes, 2015) have been published that
have investigated parental support for child PA and have specifically considered cross-gen PA as one of a number of parental support factors.

A systematic review by Gustafson and Rhodes (2006) considered 34 papers published between 1985 and 2003. The review found an overall positive correlation between parental support and child PA levels and identified “involvement” as one of the three most important forms of parental support alongside encouragement and facilitation. Involvement was defined as an “overt form of support that can include coaching or playing with the child” (Gustafson & Rhodes, 2006, p. 89), which is consistent with the definition of cross-gen PA used within this thesis. A larger review of 80 papers that were published between 1970 and August 2008 (Beets et al., 2010) also reached the conclusion that parental support was a viable means of increasing child PA. The authors divided parental support into two types: tangible and intangible (Beets et al., 2010). Tangible support was further divided into two categories: instrumental and conditional. Instrumental support consisted of purchasing equipment, paying fees and providing transportation, whereas conditional support consisted of cross-gen PA and watching or supervising child PA (Beets et al., 2010). A further systematic review, conducted by Sleddens et al. (2012), considered findings of 46 studies that were published between 1990 and 31 May 2012. The review of Sleddens et al. (2012) concurred with the findings of the two systematic reviews discussed previously, and found that parental support behaviours were positively associated with a child’s PA level. This review was focused upon the survey tools used in the included studies and the associations between results of the surveys and actual child PA levels. Although cross-gen PA was apparent as one of the support behaviours assessed by the survey tools, no discrete analysis was provided on cross-gen PA.

In contrast, another systematic review evaluated 35 studies published between January 1980 and January 2008 which examined interventions designed to engage parents to increase PA in youth (< 12 years and 12-18 years) (O’Connor et al., 2009). The authors found little evidence that parental involvement increased PA in children but they also acknowledged that this may have been due to the wide variety of research designs, quality and outcome measures in the included studies (O’Connor et al., 2009).
Consensus was also found in two meta-analyses, one examining parental socialisation behaviour (Pugliese & Tinsley, 2007) and one examining parental correlates of child and adolescent PA (Yao & Rhodes, 2015). Both of these meta-analyses synthesised results of studies published across forty years of research; Pugliese and Tinsley (2007) analysed 30 studies published between 1960 and 2005, and Yao and Rhodes (2015) analysed 105 studies published between 1970 and 2014. Cross-gen PA was not identified separately in the earlier of these two meta-analyses, rather cross-gen PA was considered as just a part of parents’ total levels of PA, under the category of “modelling” (Pugliese & Tinsley, 2007). The authors found that modelling had a small but significant association with child and adolescent PA ($r = 0.10$) and concluded that “the odds of being an active child or adolescent were two times greater with supportive versus unsupportive parents” (Pugliese & Tinsley, 2007, p.338). The larger meta-analysis conducted by Yao and Rhodes’ (2015) found a moderate association between parental support and child PA ($r = 0.38$) and small associations between child PA levels and each of several separate parental behaviours, including “co-activity” ($r = 0.28$), which appeared to be comparable to the definition of cross-gen PA used in the thesis but was not clearly defined within the paper.

In summary, systematic reviews and meta-analyses that have considered cross-gen PA as one of various types of parental support for child PA have found that parent support behaviours, including cross-gen PA, have a positive, small to moderate association with levels of child PA, although only a few interventions that successfully engaged parents in efforts to increase PA in children and youth were identified. The aim of the structured narrative literature review that follows was therefore to provide an updated review of the literature by identifying, examining and synthesizing findings from the last ten years of papers published in English that have specifically investigated cross-gen PA involving primary school aged children (6 - 12 years old) and their parents.

**Methods**

Initial literature searches and a preliminary review of key identified literature that could inform development of the survey were conducted at the beginning of the program of research between March and May 2012. Subsequently, further systematic literature
searches were conducted in June 2016 in EBSCO (Health), Ovid (Medline), Proquest, Scopus and Google Scholar databases to inform the development of the model arising from the findings and support discussion. Details of the search strategy employed in each database are provided in Appendix B. The search strategy was nuanced to ensure both a systematic approach and suitability for each database. Search terms included ‘physical activity’, ‘child’ and ‘parent’. ‘Physical activity’ was searched using a wildcard strategy, such as “physical activit*”, in order to obtain all possible permutations. Filters were applied to each search to ensure the most relevant and recent papers were identified and to ensure a contemporary focus. These filters included specifying that “physical activit*” must appear in an article’s title for that article to be identified in the search, and limiting the search to the period January 2006 to June 2016.

Initial screening of the resulting set of potentially relevant papers was performed by the researcher in two stages:

1. Identification and removal of duplicates from the total pool of initially-identified papers, based on review of titles and authors.
2. Screening of titles and abstracts of identified papers, with reference to pre-determined eligibility criteria, using the decision flow chart shown in Table 2.1.

| Table 2.1. Decision flow chart for exclusion or retention of identified papers based on title and abstract. |
|-------------------------------------------------|---------------------------------|-----------------|------------------------|
| 1. Does the study consider cross-gen PA?        | Yes →2a                          | No → exclude    | Unknown →            |
|                                                |                                 |                 | 2a                    |
| 2. Population                                  |                                 |                 |                        |
| 2a. Does the study investigate Primary school aged children (5-12 years old) and their parents/carers? | Yes → 2b                       | No → exclude     | Unknown →             |
|                                                |                                 |                 | 2b                    |
| 2b. Is the study sample taken from the general population, ie non clinical? | Yes → obtain full paper | No → exclude | Unknown → obtain full paper |
Following this initial screening process, all potentially relevant papers were obtained in full text and additional inclusion and exclusion criteria were employed to identify the final list of papers to be included in the review (Table 2.2). In addition, the reference lists of articles were scrutinised for any articles that may have missed. All types of studies were considered, including quantitative studies (for example, descriptive or experimental studies), qualitative studies and mixed methods studies.

Table 2.2. Study inclusion and exclusion criteria.

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies which included primary school aged children (age 5-12 years)</td>
<td>Studies which included only pre-school children (0 - 4 years) or only secondary school aged children (13 years or older)</td>
</tr>
<tr>
<td>Involved parent(s) or main carer(s)</td>
<td>Involved other relatives, e.g. siblings, grand-parents, uncles, aunts, cousins</td>
</tr>
<tr>
<td>Samples of children and parents or main carers were drawn from the general population</td>
<td>Sample was a clinical population, e.g. a clinical population based on level of obesity</td>
</tr>
<tr>
<td>Specifically examined cross-gen PA</td>
<td>Investigated total child and parent PA but did not specifically examine cross-gen PA</td>
</tr>
<tr>
<td>Published between 1st January 2006 and 31 May 2016</td>
<td>Published prior to 2006</td>
</tr>
<tr>
<td>Peer reviewed research paper (quantitative, qualitative or mixed methods)</td>
<td>Not peer reviewed research</td>
</tr>
<tr>
<td>Written in English</td>
<td>Not written in English</td>
</tr>
</tbody>
</table>

The results of the systematic literature search, screening and selection processes were documented in a PRISMA flow diagram as described by Moher, Liberati, Tetzlaff and Altman (2009) (Figure 2.1). Key details and findings from each included study were then extracted and tabulated for ease of reference, before a narrative synthesis was conducted to derive key overarching findings from the body of evidence provided by the included studies.
Results

Table 2.3 provides a summary of the results of the database searches. A large number of papers were excluded because they correlated a child’s total moderate to vigorous PA with a parent’s total moderate to vigorous PA and no attempt was made to find out how much, if any, of their moderate to vigorous PA was performed together as cross-gen PA. Those papers are addressed in the recent meta-analysis of Yao & Rhodes (2015).

Table 2.3. Literature search results summary.

<table>
<thead>
<tr>
<th>Database</th>
<th>Number of articles identified by initial search terms</th>
<th>Number after filters applied</th>
<th>Number following removal of duplicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBSCO (Health)</td>
<td>26 374</td>
<td>262</td>
<td>197</td>
</tr>
<tr>
<td>Ovid (Medline)</td>
<td>32 212</td>
<td>231</td>
<td>186</td>
</tr>
<tr>
<td>Proquest</td>
<td>53 863</td>
<td>205</td>
<td>193</td>
</tr>
<tr>
<td>Scopus</td>
<td>23 705</td>
<td>576</td>
<td>246</td>
</tr>
<tr>
<td>Google Scholar</td>
<td>2 940 000</td>
<td>47</td>
<td>46</td>
</tr>
</tbody>
</table>

Figure 2.1 details the results of the literature search and selection process. The final number of eligible papers retained for the narrative review was 37.
**Figure 2.1.** Flow diagram based on PRISMA flow diagram depicting literature search, screening and selection processes (Moher et al., 2009).

<table>
<thead>
<tr>
<th>EBSCO health</th>
<th>Ovid</th>
<th>Proquest</th>
<th>Scopus</th>
<th>Google Scholar</th>
</tr>
</thead>
<tbody>
<tr>
<td>197</td>
<td>186</td>
<td>193</td>
<td>246</td>
<td>46</td>
</tr>
</tbody>
</table>
A total of 37 research papers investigating cross-gen PA involving primary school aged children and their parents were retained for review. The papers were presented in three groups to provide a summary of the results of studies of cross-gen PA published over the past decade. The groups were:

- papers that examined the extent or experience of cross-gen PA (n = 12) (Table 2.4);
- papers that examined the relationship between cross-gen PA as a discrete element of parental support and a child’s PA (n = 13) (Table 2.5); and
- other papers of relevance to understanding cross-gen PA (n = 12) (Table 2.6).

For clarity, papers that examined cross-gen PA both as a discrete element of parental support and as part of a combined approach to parental support for child PA are only listed in Table 2.5 and not repeated in Table 2.6. Thus, the research detailed in Table 2.6 only pertains to papers in which cross-gen PA was not discreetly examined separately from other parental support factors.

The studies reported in the 37 included papers were predominantly (n = 32) conducted within the empirical-analytic paradigm, using a range of quantitative methodologies. One paper was conducted within the interpretative paradigm using phenomenology methodology. The research paradigm in a further four of the included papers was unclear and none of those papers stated their overarching methodology (Table 2.4). However, they appear to be adopting a qualitative approach. No studies were found that investigated cross-gen PA using a mixed methods approach.
Table 2.4. Papers that examined the extent or experience of cross-gen PA.

<table>
<thead>
<tr>
<th>Year</th>
<th>Authors/ Country</th>
<th>Research focus/ question</th>
<th>Design</th>
<th>Sample</th>
<th>Cross-gen PA measure or intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Brockman et al.</td>
<td>How do parents encourage their children to undertake PA? Comparison between children in low socio-economic status (SES) and middle/ high SES schools. To what extent is PA engaged in as a family, &amp; what barriers to cross-gen PA exist?</td>
<td>Overarching methodology not stated. Method: 17 semi-structured focus groups.</td>
<td>113 10-11 year olds. Gender 52% female.</td>
<td>Measure of cross-gen PA not provided.</td>
<td>Middle/high SES employed non-verbal methods to encourage child PA, including cross-gen PA, logistical and financial support, and modelling of PA engagement. Children from middle/high SES schools reported &quot;more&quot; cross-gen PA engagement than those from low SES schools. Barriers to cross-gen PA included time and cost.</td>
</tr>
<tr>
<td>2009</td>
<td>Thompson et al.</td>
<td>Parental perceptions of importance, frequency, nature and barriers of cross-gen PA as a family.</td>
<td>Overarching methodology not stated. Method: semi-structured telephone interviews.</td>
<td>30 parents 26 mothers, 4 fathers of children aged 10–11 years.</td>
<td>Measure of cross-gen PA not provided.</td>
<td>Parents rated family cross-gen PA as important but frequency of family cross-gen PA was low. Barriers to family cross-gen PA: time, busy lifestyles, diverse ages of children, interests of children and adults, weather, facilities, transport and money.</td>
</tr>
<tr>
<td>2010</td>
<td>Rhodes, Naylor &amp; McKay</td>
<td>Effects of a planning intervention (planning material) and a 'standard' intervention on cross-gen PA in families. Both interventions included PA guidelines and local active living guide.</td>
<td>Randomised controlled trial.</td>
<td>65 families Child age range 4–10 yrs. Parent gender 84% female. Child gender not stated.</td>
<td>Total minutes and frequency of bouts of structured and unstructured cross-gen PA.</td>
<td>Planning intervention resulted in an additional average of 60 minutes of unstructured self-reported cross-gen PA per week.</td>
</tr>
<tr>
<td>Year</td>
<td>Authors/ Country</td>
<td>Research focus/ question</td>
<td>Design</td>
<td>Sample</td>
<td>Cross-gen PA measure or intervention</td>
<td>Results</td>
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<tr>
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</tr>
<tr>
<td>2010</td>
<td>Wright, Wilson, Griffin &amp; Evans USA</td>
<td>What types of PA do parents engage in with their adolescent? What support behaviours for PA do parents give their adolescent and what types of support from parents do adolescents think would help them to be more active?</td>
<td>Overarching methodology not stated. Method: 10 single gender structured focus groups.</td>
<td>52 underserved (minority 85% African-American and low-income) adolescents. Aged 10–14 years. Gender 42% female.</td>
<td>Not applicable.</td>
<td>Types of cross-gen PA included: walking, cycling and basketball. Children of both genders indicated that they wanted their parents to be more directly engaged in PA with them as they reported cross-gen PA as infrequent.</td>
</tr>
<tr>
<td>2011</td>
<td>Casiro, Rhodes, Naylor &amp; McKay Canada</td>
<td>To compare correlates of personal versus cross-gen leisure time PA of parents using the theory of planned behaviour.</td>
<td>Cross-sectional descriptive survey. Survey of one parent per family.</td>
<td>126 parents with children aged 2-12 years. Parent gender 84% female. Child gender not stated.</td>
<td>Cross-gen PA: defined as at least one parent and one child together accumulating at least 30 minutes of PA 4 times per week.</td>
<td>Perceived behavioural control &amp; behavioural frequency were higher in cross-gen PA than personal PA. Affective attitude was higher for personal activity and subjective norm was more important in cross-gen PA than personal intention.</td>
</tr>
<tr>
<td>2012</td>
<td>Stanley, Boshoff &amp; Dollman Australia</td>
<td>Children’s perceptions of the factors influencing their engagement in after-school PA.</td>
<td>Overarching methodology not stated. Same gender semi-structured focus groups.</td>
<td>54 10–13 year olds. Gender 57% female.</td>
<td>Not applicable.</td>
<td>Parents who helped their child by engaging in cross-gen PA was identified by children as a facilitator of after-school PA.</td>
</tr>
<tr>
<td>2013a</td>
<td>Dunton et al. USA</td>
<td>Examined moderate to vigorous cross-gen PA and joint sedentary behaviour.</td>
<td>Comparison of child and parent accelerometer and global positioning systems (GPS) data.</td>
<td>291 child-parent pairs Child age range 8-14 years. Child gender 52% female, Parent gender 87% female.</td>
<td>Accelerometer &amp; GPS data over the same 7 day period.</td>
<td>Children and parents spent more time together in sedentary activities than in moderate to vigorous cross-gen PA. 89% of child-parent pairs engaged in some moderate to vigorous cross-gen PA.</td>
</tr>
<tr>
<td>2013b</td>
<td>Dunton et al. USA</td>
<td>Describe locations of cross-gen PA.</td>
<td>Comparison of child and parent accelerometer &amp; GPS data.</td>
<td>291 child-parent pairs Child age range 8-14 years. Child gender 52% female, parent gender 87% female.</td>
<td>Accelerometer &amp; GPS data over the same 7 day period.</td>
<td>Cross-gen PA – 35% occurred in residential locations, 24% commercial venues, 20% open spaces/parks.</td>
</tr>
<tr>
<td>Year</td>
<td>Authors/ Country</td>
<td>Research focus/ question</td>
<td>Design</td>
<td>Sample</td>
<td>Cross-gen PA measure or intervention</td>
<td>Results</td>
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</tr>
<tr>
<td>2013</td>
<td>Pentz &amp; Riggs USA</td>
<td>Evaluated the impact of executive cognitive function on lifetime tobacco &amp; alcohol use and PA, including cross-gen PA, over 6 months.</td>
<td>Longitudinal survey of 4th grade children.</td>
<td>1005 children in 4th grade at USA school. Mean age 9.27 years. Gender 51% female.</td>
<td>Cross-gen PA on 4 point Likert scale: 0 = never, 4 = almost every day. Cross-gen PA (walk or play sports) of all parents examined.</td>
<td>88 % of children reported at least one bout of cross-gen PA per week. Positive correlation between executive cognitive function proficiency &amp; cross-gen PA.</td>
</tr>
<tr>
<td>2014</td>
<td>de la Haye, de Heer, Wilkinson &amp; Koehly USA</td>
<td>Examined the extent to which relationships of encouragement to do PA and cross-gen PA co-exist in Mexican-American parents &amp; children.</td>
<td>Cross-sectional survey of parents.</td>
<td>224 Mexican-origin parents with at least 1 child aged 5-20 years in their household. 28.9 % in child age range of 5-11 years.</td>
<td>Parent response to being asked to identify which family members 'with whom they often exercised.' Child-parent dyads coded as: 1 exercise together or 0 don’t exercise together.</td>
<td>16.7% of child-parent dyads engaged in PA together, with an even distribution of gender defined dyad types. Child-parent dyads were 8 times more likely to engage in cross-gen PA if they shared a ‘close’ relationship.</td>
</tr>
<tr>
<td>2015</td>
<td>Belanger-Gravel, Gauvin, Lagarde &amp; Laferte Canada</td>
<td>Identification of correlates of PA among parents and children.</td>
<td>Cross-sectional telephone survey of children and parents.</td>
<td>1000 parent-child dyads: 357 mother-daughter, 393 mother-son, 117 father-daughter, 133 father-son. Child age range 9-13 years.</td>
<td>Parent report of number of days during the past week they engaged in cross-gen PA with their child. Answers aggregated into 2 scores: 1 = 1 or more sessions, or 0 = no engagement.</td>
<td>A significantly smaller proportion of lower educated parents engaged in cross-gen PA with their daughters (44.4%) when compared to parents with higher education (58.4%).</td>
</tr>
<tr>
<td>2016</td>
<td>VanDerworp &amp; Ryan UK</td>
<td>Explored how mothers perceived their influence on their child’s PA.</td>
<td>Phenomenology. Semi-structured interviews.</td>
<td>5 mothers who had at least one child between ages 6–18 years.</td>
<td>Not applicable</td>
<td>Mothers used PA as an opportunity for family time.</td>
</tr>
</tbody>
</table>
Table 2.5. Papers that examined the relationship between cross-gen PA, as a discrete element of parental support, and a child’s PA.

<table>
<thead>
<tr>
<th>Year</th>
<th>Authors/Country</th>
<th>Research focus/question</th>
<th>Design</th>
<th>Sample</th>
<th>Cross-gen PA measure or intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Beets, Vogel, Forlaw, Pitetti &amp; Cardinal USA</td>
<td>Examined perceived social support for PA from parents and peers.</td>
<td>Child survey.</td>
<td>363 children, 52% female. Mean age 12 years.</td>
<td>Mother’s and father’s cross-gen PA on 5 point Likert scale (0=never to 4=every day).</td>
<td>Boys reported greater amounts of cross-gen PA than girls. Cross-gen PA was not related to total child PA levels.</td>
</tr>
<tr>
<td>2006</td>
<td>Heitzler, Martin, Duke &amp; Huhman USA</td>
<td>Examined potential correlates of youths’ organised and free-time PA.</td>
<td>Child and parent surveys.</td>
<td>3114 child-parent pairs. Child gender 49% female. Child age range 9-13 years. Parent gender not provided.</td>
<td>Child report of perceived parental support (aggregated scale of 4 items including one cross-gen PA item). Parent report of cross-gen PA in 7 days prior to study.</td>
<td>80 % of parents reported they had participated in cross-gen PA (on one or more days) in the 7 days prior to completion of the questionnaire. Cross-gen PA was significantly related to a child’s free-time PA but not related to a child’s organised PA.</td>
</tr>
<tr>
<td>2006</td>
<td>Springer, Kelder &amp; Holescher USA</td>
<td>Examine social support from family and friends on participation in PA.</td>
<td>Child survey</td>
<td>718 6th grade girls Child age range 10–14 years.</td>
<td>Child report of how often during the past month their family did PA with them.</td>
<td>Small correlation between cross-gen PA and moderate to vigorous PA. Negative correlation between family cross-gen PA and screen time.</td>
</tr>
<tr>
<td>2007</td>
<td>Beets, Vogel, Chapman, Pitetti &amp; Cardinal USA</td>
<td>Examine parental support behaviours on outdoor PA during weekday and weekends.</td>
<td>Parent survey and pedometers worn by children for 7 days.</td>
<td>68 children, 57% female. Child age range 8 – 11years. 65 mothers, 50 fathers.</td>
<td>Parent report of cross-gen PA weekdays and weekends.</td>
<td>Outdoor PA as family recreation by mothers was correlated with girls’ weekday outdoor PA. Fathers’ outdoor PA correlated with sons’ outdoor PA at weekends.</td>
</tr>
<tr>
<td>2008</td>
<td>Jackson, Crawford, Campbell &amp; Salmon Australia</td>
<td>Examine parental concern for their child’s PA levels and the supportive environment they provide to their child for PA.</td>
<td>Parent survey and child accelerometer data.</td>
<td>615 parents of 5-6 year old children &amp; 947 parents of 10-12 year old children.</td>
<td>2 item scale of cross-gen PA frequency used in analysis: rarely/less than once a week and one or more times per week.</td>
<td>Children of concerned parents were less active than those whose parents were not concerned. Concerned parents less likely to participate in PA with their child at least once per week.</td>
</tr>
<tr>
<td>Year</td>
<td>Authors/ Country</td>
<td>Research focus/question</td>
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<td>Sample</td>
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<td>2011</td>
<td>Cleland et al.</td>
<td>Examined the longitudinal relationship between the family environment and PA in youth.</td>
<td>Parent survey of family context. Accelerometer data weekends and after school until 6pm, in 2001, 2004, 2006.</td>
<td>190 child-parent pairs, child age range 5-6 years and 350 child-parent pairs, child age range 10-12 years.</td>
<td>Separate 6 item scale for mother and father cross-gen PA.</td>
<td>In girls, mothers’ cross-gen correlated with moderate to vigorous PA levels. No relationship found between father cross-gen PA &amp; girl PA. No relationship found between mother and father cross-gen PA and boy PA.</td>
</tr>
<tr>
<td>2011</td>
<td>Rosenkranz &amp; Dzewaltowski USA</td>
<td>Examined if PA-related parenting behaviours were associated with PA and relative weight of children.</td>
<td>Parent survey of mothers.</td>
<td>193 child-mother pairs. Child gender 51% female. Child mean age 9.5 years.</td>
<td>Parent report of frequency of cross-gen PA on five item scale (‘never’ to ‘daily’).</td>
<td>Mean frequency cross-gen PA 2 to 3 times per week. Greater engagement in cross-gen PA was associated with higher levels of child PA.</td>
</tr>
<tr>
<td>2013</td>
<td>Timperio et al. Europe – 7 countries</td>
<td>Examined direct and indirect associations between family PA environment and sports participation in 10-12 year old children.</td>
<td>Child and parent surveys examining parental influences on a child’s sport participation.</td>
<td>7234 children, gender not reported. Child age range 10-12 years. 6002 parents, gender not reported.</td>
<td>Parent report of both parent’s cross-gen PA on 6 item scale (never, &lt; once/week, once/week, 2-4 days/week, 5-6 days/week, daily).</td>
<td>No relationship found between cross-gen PA and child sport participation.</td>
</tr>
<tr>
<td>2013</td>
<td>Vander Ploeg et al. Canada</td>
<td>Examined if parental beliefs and support are associated with children’s PA levels on school days and weekend days.</td>
<td>Parent survey. Child PA measured by pedometer.</td>
<td>1355 child-parent pairs. Child gender 53% female, parent gender not reported. Children age range not reported, grade 5 at school.</td>
<td>Parent report of cross-gen PA frequency on 3 item scale (&lt; 1 time per week, 1-3 times per week, 4 or more times per week).</td>
<td>Cross-gen PA was positively correlated with pedometer counts in boys but not girls.</td>
</tr>
<tr>
<td>2014</td>
<td>Maata, Ray &amp; Roos Finland</td>
<td>Examined associations of parental influence (cross-gen PA, encouragement, modelling of PA) on child’s PA, perceived competence and attraction to PA.</td>
<td>Child survey.</td>
<td>1278 children, 49% female. Age range 10-11 years.</td>
<td>Child report on cross-gen PA participation with mother &amp; father separately, using 5-point scale (1 = not at all, 5 = very much). Mother and father scores aggregated for analysis.</td>
<td>Cross-gen PA positively associated with perceived competence and attraction to PA (indirect effect) but no direct effect on children’s PA participation found.</td>
</tr>
<tr>
<td>Year</td>
<td>Authors/ Country</td>
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<tr>
<td>2014</td>
<td>Moore, Beets, Morris &amp; Kolbe USA</td>
<td>Identified modifiable factors associated with meeting moderate to vigorous PA recommendations in youth.</td>
<td>Child survey and accelerometer data.</td>
<td>1979 children, 53% female. Mean age 11.3 years.</td>
<td>Child report of cross-gen PA frequency on a 5 point scale ranging from ‘never’ to ‘every day’.</td>
<td>Cross-gen PA was not associated with meeting child PA guidelines of 60 minutes per day.</td>
</tr>
<tr>
<td>2014</td>
<td>Zhao &amp; Settles USA</td>
<td>Examined the individual, parental and neighborhood correlates of children’s PA &amp; risk of obesity.</td>
<td>Parent telephone survey.</td>
<td>1541 parents of children aged 6-17 years. Children 49% female. Parent gender not reported.</td>
<td>Parent report of number of days during the past week that parents and children had participated in PA together.</td>
<td>Higher participation in cross-gen PA was associated with higher levels of both moderate to vigorous PA and vigorous PA in children.</td>
</tr>
<tr>
<td>2015</td>
<td>Rhodes et al. Canada</td>
<td>Examined parental support behaviours and family demographics as mediators of mothers’ perceptions of child PA using theory of planned behaviour over two 6 month intervals (ie 3 time points).</td>
<td>Online survey of mothers.</td>
<td>1253 mothers of children aged 5 – 13 years. Child gender 49% female.</td>
<td>Attitude, perceived behavioural control and intention towards cross-gen PA measured on 5 point Likert scale from strongly agree to strongly disagree. Cross-gen PA frequency measured on 5 point scale (never/rarely, about once a month, 1-2 times per week, most days, daily).</td>
<td>Cross-gen PA was related to perceived child PA, but is dependent upon perception of control, child age &amp; income.</td>
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<tr>
<td>Year</td>
<td>Authors/Country</td>
<td>Research focus/question</td>
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<td>Cross-gen PA measure or intervention</td>
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<td>2006</td>
<td>Ommundsen, Klasson-Heggebo &amp; Anderssen Norway</td>
<td>Examined psycho-social and environmental correlates of location specific PA of children.</td>
<td>Child survey.</td>
<td>760 children, 50% female. 9 and 15 years.</td>
<td>5 item scale of cross-gen PA and encouragement.</td>
<td>Parental support positively correlated with child’s PA.</td>
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<tr>
<td>2009</td>
<td>Davison &amp; Jago USA</td>
<td>Examined change in parent and peer support for girls PA ages 9-15 years.</td>
<td>Child, mother and father surveys at 9, 11, 13 &amp; 15 years. Accelerometer data at 13 &amp; 15 years.</td>
<td>174 girls. Assessed at 9, 11, 13 and 15 years. Demographic data for parents not provided.</td>
<td>Parent-report aggregated score from mother and father of ‘modelling’ – cross-gen PA &amp; using own behaviour to show girls how to engage in PA.</td>
<td>Girls who maintained PA over the survey time had parents who reported higher levels of ‘modelling’ of PA across time.</td>
</tr>
<tr>
<td>2010</td>
<td>Barr-Anderson et al. USA</td>
<td>Examined whether parent-report or child perception is more strongly associated with child-reported PA and television use.</td>
<td>Child and parent surveys.</td>
<td>73 children, 75% female Child mean age 10.1 years. Parents’ gender not provided.</td>
<td>Child and parent report: cross-gen PA, encouragement, information, transportation, watching.</td>
<td>Level of agreement between child and parent perceptions was 70%. Child perception of parental support for PA more strongly related to child moderate to vigorous PA levels than parent’s perception.</td>
</tr>
<tr>
<td>2011</td>
<td>Hendrie, Coveney &amp; Cox Australia</td>
<td>Examined relationship between family environment and child health behaviours: PA, screen time, and fruit and vegetable intake.</td>
<td>Parent survey.</td>
<td>106 parents, 92% female. Child age range 5-11 years.</td>
<td>Role modeling (8 item scale – 6 items cross-gen PA, 2 items sedentary behavior rules)</td>
<td>Parental role modeling associated with increased child PA time, increased fruit and vegetable intake and reduced screen time.</td>
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<tr>
<td>Year</td>
<td>Authors/Country</td>
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<td>2011</td>
<td>Kirby, Levin &amp;</td>
<td>Examined parental and</td>
<td>5 year</td>
<td>641</td>
<td>Parent support assessed on</td>
<td>Influence of support varied with age,</td>
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<td></td>
<td>Inchley UK</td>
<td>peer influences on child</td>
<td>longitudinal child survey.</td>
<td>children, aged 11 – 15 years.</td>
<td>4 point Likert scale from ‘a lot’ to ‘not at all’. 5 item scale of cross-gen PA encouragement, transport, watching and praising.</td>
<td>with parental support less likely to be associated with being active as children became older. Being active related to parental support from same gender parent.</td>
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<td></td>
<td></td>
<td>PA.</td>
<td></td>
<td></td>
<td>Child gender 51% female.</td>
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<tr>
<td>2011</td>
<td>McMinn et al.</td>
<td>Examined correlates of</td>
<td>Child and parent surveys. Child accelerometer data for 7 days.</td>
<td>2071 children. Age range 9-10 years old. Child gender 52% female. Parents’ gender not provided.</td>
<td>Sum of responses to yes/no responses to 3 questions about cross-gen PA, logistical support and watch.</td>
<td>Similarities across ethnic groups. Family PA support and owning a pet associated with higher child PA.</td>
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<tr>
<td></td>
<td>UK</td>
<td>family and home factors on child PA in a multi-ethnic population.</td>
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<td>2012</td>
<td>Davison et al.</td>
<td>Examined parents’ support of children’s PA as an intermediary factor linking social capital and child PA.</td>
<td>Parent survey.</td>
<td>355 families. Child age range 6-12 years. Child gender 50% female, parent gender 55% female.</td>
<td>8 items including cross-gen PA, logistic support, modelling and encouragement.</td>
<td>Higher parental support associated with significantly more days of sufficient PA (total of 60 minutes of PA per day).</td>
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<td></td>
<td>USA</td>
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<td>Seghers Belgium</td>
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<tr>
<td>2015</td>
<td>Lau et al.</td>
<td>Examined associations between home environment and after-school PA and sedentary time among children.</td>
<td>Parent survey and child accelerometer data from 2–7 days.</td>
<td>671 families. Child gender 53% female, mean age 11.5 years. Parent gender 87% female.</td>
<td>Measured by 3 tangible and 1 intangible items: tangible support was cross-gen PA, transportation and supervision. Intangible was encouragement.</td>
<td>Higher levels of parental support associated with higher levels of after-school girls’ total PA and moderate to vigorous PA. No association found in boys.</td>
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<td></td>
<td>USA</td>
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<td>Year</td>
<td>Authors/Country</td>
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<tr>
<td>2016</td>
<td>Forthofer Dowda, McIver, Barr-Anderson &amp; Pate USA.</td>
<td>Examined agreement between parent and child perceptions of parental support for child PA.</td>
<td>Child and mother surveys. Child accelerometer data for 7 days.</td>
<td>693 child-mother pairs. Child gender 55% female. Child mean age 10.6 years.</td>
<td>Child and parent report – encouragement, cross-gen PA, transportation and watching.</td>
<td>Mothers’ perceptions of parental support were significantly associated with children’s PA. Child perceptions consistent with those of mothers.</td>
</tr>
<tr>
<td>2016</td>
<td>Rhodes et al. Canada</td>
<td>Examined the intention-behaviour gap of mothers’ support for child PA.</td>
<td>Parent surveys at 6 month intervals.</td>
<td>1253 mothers with children, aged 5–12 years.</td>
<td>Parent report of total child PA and parental support, consisting of: cross-gen PA, encouragement, and logistical support.</td>
<td>Majority of mothers had positive intentions to support regular child PA, yet over half failed to enact this support.</td>
</tr>
</tbody>
</table>
Synthesis of findings

Overview

Inspection of the 37 papers identified in the narrative review revealed that the majority of the papers were not focused upon examining cross-gen PA itself. Most examined parental support factors and their impacts upon children’s PA. Cross-gen PA was one of many factors identified as a component of parental support for a child’s PA but, as the synthesis of the findings will show, cross-gen PA itself was rarely the focus of the research detailed in the papers. This finding is evident upon inspection of Tables 2.5 and 2.6, in which cross-gen PA was examined discretely as a parental support factor of a child’s PA and inextricably combined with other parental support factors of a child’s PA, respectively. However, this finding is also pertinent to many of the papers contained in Table 2.4, in which the experience and extent of cross-gen PA were examined. For example, cross-gen PA was one aspect of parental support mentioned by adolescents (aged 10 – 14 years) in the study by Wright et al. (2010), which examined the types of support parents provide their adolescents for their PA. In that study, cross-gen PA was identified as a support behaviour by adolescents but the focus of the research report was upon parental support behaviours rather than cross-gen PA, and so detailed examination or analysis of cross-gen PA was not undertaken (Wright et al., 2010).

Across the papers many different terms were used in conjunction with the term PA to refer to cross-gen PA. For example: co-participation (Cleland et al, 2011; Timperio et al. 2013), involvement (Maata, Ray & Roos, 2014), co-engagement (de la Haye, de Heer, Wilkinson & Koehly, 2014), co-activity (Pugliese & Tinsley, 2007), joint (Dunton et al., 2013b), family-based (Thompson et al. 2009), parent-child shared (Rosenkranz & Dzewaltowski 2011), intergenerational (Casiro, Rhodes, Naylor & McKay 2011), family (Rhodes, Naylor & McKay, 2010), role modelling or modelling (Wright et al., 2010) and explicit role modelling (Rutten, Boen & Seghers, 2013). In addition, some of these terms were used to refer to an aspect of PA other than cross-gen PA. For example modelling and explicit role modelling were both used to refer to three different elements of PA:

- parents being active with a child (e.g. cross-gen PA);
• a parent’s total engagement in PA, whether it was directly witnessed or not by the child; or
• A combination of the previous two definitions.

The multiple possible interpretations of these terms used in the literature made interpretation of findings difficult, especially when two different definitions for a term appeared to be used in the same study. For example, Wright et al. (2010, p. 227, Table II: focus group questions) stated that the researchers examined role modelling by asking the following question: “what types of PA do your parents do?” This question suggests that Wright et al (2010) were examining the parents’ total engagement in PA, without consideration of child involvement. However, later in the paper Wright et al. (2010, p. 229) stated that “regarding parental role modelling, adolescents reported that parents engaged in a variety of different types of PA with them”. This latter statement suggests that the authors regarded cross-gen PA as role modelling as well.

**The extent and experience of cross-generational physical activity**

Variation in reported frequencies of cross-gen PA was found upon inspection of the included papers along with indications that cross-gen PA may be affected by the gender composition of the cross-gen PA dyad (Table 2.4). De la Haye et al. (2014) reported that 17% of parents in their study engaged in cross-gen PA, noting however that over a third (38%) of parent participants rated their health as poor and this may have affected the results. Thompson et al. (2009) did not state how they measured frequency of cross-gen PA but they observed that cross-gen PA was more “common” at weekends, with parents pairing off with different children to accommodate their differing needs. In contrast, 88% of child respondents reported at least one bout of exercise with a parent per week in a child survey assessing the relationships between executive cognitive function and a number of different PA behaviours, including cross-gen PA (Pentz & Riggs, 2013). A similar frequency of cross-gen PA was found by Dunton et al. (2013a), in which 89% of child-parent pairs were observed to have engaged in moderate to vigorous cross-gen PA at some time over a seven-day period, when measured by comparing global positioning system (GPS) and accelerometer data. Dunton et al. (2013a) point out the limitation that their study only took into account one parent’s participation with their child and that parent
participants in the study were predominantly mothers (87% of parent participants were mothers). Both of these limitations were common to most of the papers contained within the narrative review in this thesis. Dunton et al. (2013a) also found that cross-gen PA contributed a larger proportion of a girl’s total PA than a boy’s total PA and suggested that the gender composition of the children and parents in a study may affect the observed prevalence of cross-gen PA.

The educational attainment level and social-economic status (SES) of the parent were found to impact the frequency of cross-gen PA (as seen in Table 2.4). Belanger-Gravel, Gauvin, Lagarde and Laferte (2015) found that a significantly smaller proportion of parents with lower levels of education engaged in cross-gen PA with their daughters when compared to parents with higher levels of education. However, this finding was not replicated in the boy-parent dyads (Belanger-Gravel et al. (2015). Brockman et al. (2009) found that parents of children in primary schools, located in either low or medium-to-high SES areas, encouraged their children’s PA in different ways. Low SES school parents provided support through verbal ‘demands’ or ‘direction’. In contrast, middle to high SES school parents provided non-verbal support and encouragement through cross-gen PA, logistical support (transport and finance) and modelling (level of parent PA). Brockman et al. (2009) stated that a higher prevalence of cross-gen PA was reported in the middle to high SES school children. Although the authors acknowledged that the SES of the school could not be taken to accurately reflect the family’s SES status, the findings of Brockman et al. (2009) do suggest that the children perceived that their parents supported their PA in different ways and for some children parental support included engagement in cross-gen PA.

Cross-gen exercise and sport were the two categories of cross-gen PA investigated by the majority of papers listed in Table 2.4, however one paper in the narrative review reported that cross-gen PA may take place across a broader range of PA categories. These PA categories included chores and active transport, in addition to cross-gen exercise and sports, such as running, walking, swimming and ball games (Thompson et al., 2009). In addition, in their second paper from the same study, Dunton et al. (2013b) described the locations in which moderate to vigorous PA of child-parent pairs occurred across a seven-
day period. Using accelerometer and global positioning systems data from 291 child-parent pairs, Dunton et al. (2013b) found that cross-gen moderate to vigorous PA took place across a number of venues, with 35% of cross-gen PA taking place in residential locations, for example houses, apartments and condominiums, and 20% in open space and parks. No time use data was taken and so it was not possible to know what types of PA the child-parent pairs were engaged in or if they were truly engaging in cross-gen PA, as the maximum distance apart (< 50m apart) used as the criterion in that study for deeming PA as being performed by child and parent together, does not make that judgment feasible.

Cross-gen PA was evident but not always explicitly identified, as a theme or sub-theme of three papers which examined children’s perspectives of PA, including parental support behaviours (Brockman et al, 2009; Wright et al., 2010) and engagement in PA after-school (Stanley, Boshoff & Dollman, 2012) (Table 2.4). Thus, the experience of cross-gen PA from a child’s perspective was not explored in-depth in any of the studies. Instead, cross-gen PA was identified as either an approach that parents used to support children in their PA (Brockman et al, 2009; Stanley et al., 2012; Wright et al., 2010) or as a solution, suggested by children, to help them in their PA (Wright et al., 2010). For example, one child was quoted as saying: “they shoot hoops with me in the backyard, help me practice and get rebounds” (Stanley et al., 2012, p. 38). This quote was identified as ‘parent support’ in addition to provision of resources and transportation to activities, but not explicitly as cross-gen PA. Stanley et al. (2012) did not explore or remark upon this aspect of parental support which illustrates that Stanley et al.’s (2012) focus was not upon cross-gen PA itself.

Cross-gen PA was also evident in two papers that examined parents’ perspectives of parental support for a child’s PA (Table 2.4). Using a phenomenological methodology, VanDerworp and Ryan (2016) found that mothers perceived that they had a generally positive influence on their child’s PA. The mothers enjoyed engaging in cross-gen PA with their children and used cross-gen PA as an opportunity for family time (VanDerworp & Ryan, 2016). Thompson et al. (2009) reported the results of semi-structured telephone interviews with 30 parents in Bristol, United Kingdom, which focused on family cross-gen PA. Thompson et al.’s (2009) study was part of a larger project that investigated the
influences of peers and parents on children’s levels of PA. As no measure of parental PA was taken, it is possible that the expressed views represented only a narrow band of parental PA levels. For example, all responders could have been either active or non-active. Thompson et al. (2009) reported that parents considered family engagement in PA as important because it increased communication between participants and was enjoyable. The authors also discovered that most families did not perform cross-gen PA as a whole family, but rather families divided their membership to accommodate the differing needs of their children (Thompson et al., 2009). They found that cross-gen PA was more likely to happen at weekends, but not as a whole family. Thompson et al. (2009, p. 272) concluded that family cross-gen PA was a “mythical ideal” and recommended that in order to support their child’s PA, parents should be paired with their children “according to the type of activity the child is interested in”. Thus, the focus appeared to be cross-gen PA is for facilitating child PA rather than parent PA.

The theory of planned behaviour was used to investigate parental correlates of personal PA and parental correlates for cross-gen PA (Casiro et al., 2011) (Table 2.4). Casiro et al. (2011) investigated parents with children aged between 2 and 12 years. They defined cross-gen PA as “at least one parent and one child being active together, accumulating at least 30 minutes of activity 4 times per week or more” (Casiro et al., 2011, p. 84). This definition appears quite stringent compared to the frequency of cross-gen PA reported in other papers listed in Table 2.4 and will have restricted Casiro et al.’s sample to those meeting this criteria, perhaps influencing their results. Casiro et al. (2011) found that parents performed more cross-gen PA than personal PA and that the relationship between perceived behavioural control and intention to engage in PA was slightly stronger in cross-gen PA ($r = 0.45$) than personal PA ($r = 0.43$). The authors suggested this finding may reflect the low control parents had over barriers to personal PA, such as childcare. In addition, a moderate correlation between subjective norm and parental intention to engage was found for cross-gen PA ($r = 0.35$), whereas there was a much lower correlation between subjective norm and parental intention to engage in personal PA ($r = 0.10$) (Casiro et al., 2011). The authors hypothesized that these findings reflected that cross-gen PA is a shared experience and therefore it was logical that the social considerations of other participants were important in this context. Affective attitude for cross-gen PA had a
smaller correlation with behaviour \((r = 0.15)\) than affective attitude for personal PA \((r = 0.35)\) and the authors speculated that this finding may indicate a sense of obligation for parents to engage in cross-gen PA (Casiro et al., 2011).

The authors of the only randomised controlled trial included in the narrative review, concluded that cross-gen PA was dependent upon the planning and regulatory capabilities of parents and that enhancing those parental attributes might increase their engagement in cross-gen PA (Rhodes et al., 2010) (Table 2.4). The randomised controlled trial was designed with the assumption that parents are the “gatekeepers of a child’s PA” and examined the effect of a planning intervention upon participation in cross-gen PA (Rhodes et al., 2010). Rhodes et al. (2010) hypothesised that those parents who received the planning intervention would report more cross-gen PA with their children (aged between 4 and 10 years). The researchers’ hypothesis was supported. They found that an additional 60 minutes of unstructured cross-gen PA was performed, on average, per week in the planning condition (Rhodes et al., 2010). Parents reported lack of time, laziness and forgetfulness were the most common barriers to cross-gen PA (Rhodes et al., 2010).

The role and influence of cross-gen PA upon a child in a broader context was considered by one paper (Pentz & Riggs, 2013). Pentz and Riggs (2013) examined the role cross-gen PA may play in a child’s general health and wellbeing as well as examining cross-gen PA’s role as an element of parental support for a child’s PA (Table 2.4). They included cross-gen PA as a potential determinant in research investigating executive cognitive function of children \((4^{th} \text{ grade USA, mean age 9.27 years})\) because the authors postulated that cross-gen PA may provide “prosocial bonding, support, monitoring and modeling of healthy lifestyle behaviours” (Pentz & Riggs, 2013, p. 230) which might help to prevent substance use (alcohol and smoking). Executive cognitive function was defined as a set of neuro-cognitive skills that included “higher order problem solving, self-regulation and impulse control” (Pentz & Riggs, 2013, p.230). Linear regression models were calculated to explore relationships among the variables and the study found that executive cognitive function was positively correlated with both child PA and cross-gen PA (Pentz & Riggs, 2013). The authors suggested that the significant relationships found in the study, which linked executive cognitive function positively to healthy behaviours of PA, cross-gen PA
and parent rules about food and screen time, may provide information for future programs which would aim to increase a child’s capacity for healthy behaviour (Pentz & Riggs, 2013).

Findings from two papers suggest that in some families there was bi-directional support for PA, including cross-gen PA, with the child providing support to a parent in their PA, just as parents provided support to children (Belanger-Gravel et al., 2015; de la Haye et al., 2014) (Table 2.4). Cross-gen PA between ‘tween-aged children’ (9-13 years) and parent dyads was examined in a telephone survey as one of a number of factors associated with total PA of children and parents (Belanger-Gravel et al., 2015). The study found that engagement in cross-gen PA was associated with greater overall engagement in PA in both children and parents and so the authors recommended promotion of cross-gen PA as a strategy to increase PA in tweens and parents (Belanger-Gravel et al., 2015). The co-existence of cross-gen PA and encouragement in child-parent PA dyads was examined in a survey of Mexican-American parents with ‘children’ aged between 5 and 20 years (de la Haye et al., 2014). The researchers found a low prevalence of cross-gen PA across child-parent dyads (17%), with physically active parents no more likely than inactive parents to engage in cross-gen PA (de la Haye et al., 2014). Of interest, the association between cross-gen PA and encouragement for PA was only found to be significant when the child-parent encouragement relationship was reciprocal, and not when the encouragement relationship was unilateral (either parent encouraging child, or child encouraging parent) (de la Haye et al., 2014).

In summary, in this group of papers cross-gen PA has been found to form a part of PA for some children and parents and cross-gen PA may be found across a broad range of PA categories, including exercise and sport, active transport and chores. Cross-gen PA may also be beneficial for communication and executive cognitive function in children. Although cross-gen PA was apparent in many of the papers found (Table 2.4), cross-gen PA was not always identified or analysed as anything more than just one component of parental support for a child’s PA. This was evident in the only paper in this review that reported the extent and experience of cross-gen PA in the Australian context (Stanley et al., 2012).
Cross-generational physical activity as a discrete element of parental support for a child’s physical activity

The role of cross-gen PA as a discrete element of parental support for a child’s PA was examined by 13 studies included in the narrative review (Table 2.5). Nine studies reported a positive association between cross-gen PA and a child’s PA (Heitzler, Martin, Duke & Huhman, 2006; Jackson, Crawford, Campbell & Salmon, 2008; Rosenkranz & Dzewaltowski, 2011; Springer, Kelder & Holescher, 2006; Rhodes et al., 2015; Zhao & Settles, 2014) but this association was related to a specific gendered dyad (for example, daughters and mothers) in some of the papers (Beets, Vogel, Chapman, Pitetti & Cardinal, 2007; Cleland et al., 2011; Vander Ploeg et al., 2013). Maata et al. (2014) found a positive association between cross-gen PA and a child’s perceived competence and attraction to PA but no direct effect on a child’s PA participation.

No association was found between cross-gen PA and a child’s PA in three papers that focused upon specific aspects of a child’s PA and these foci may have affected the outcomes of the research they reported (Beets, Vogel, Forlaw, Pitetti & Cardinal, 2006; Moore, Beets, Morris & Kolbe, 2014; Timperio et al., 2013). Moore et al. (2014) examined factors associated with meeting the child PA guideline of 60 minutes of moderate to vigorous PA per day (US Department of Health and Human Services, 2008), including cross-gen PA. Cross-gen PA was not found to significantly contribute to Moore et al.’s (2014) model and since cross-gen PA was not the focus of the research paper, it was not further scrutinized (Moore et al., 2014). Timperio et al. (2013) investigated the relationship between cross-gen PA and a child’s sport participation and found no association. This finding echoes the findings of one of the papers by Heitzler et al. (2006) (Table 2.4). Although Heitzler et al. (2006) also found that cross-gen PA was not significantly associated with a child’s level of engagement in organised PA, they did find an association between cross-gen PA and a child’s free-time PA. These findings appear intuitive, as children of this age group are likely to be doing organised sport or organised PA in a peer context and not a cross-gen PA context, whereas their free time PA would be more likely to include family members, such as parents and siblings. Beets et al. (2006) used four questions to determine a child’s self-reported PA level. Three of those questions
asked children how many days in the past seven days they met a specific threshold PA intensity (vigorous or moderate PA) for a specific timeframe (20, 30 & 60 minutes), with these thresholds drawn from the Youth Risk Behaviour Surveillance Survey (Centre for Disease Control and Prevention, 2004). The last question Beets et al. (2006) asked pertained to the number of days that children participated in organised sport. As with other previous papers the reporting of the child’s PA in their research may have affected their results, since cross-gen PA may not meet the intensity thresholds or organised sport criterion they used (Beets et al., 2006). Taken together, these findings highlight the variation in the methods employed across all the papers included in the narrative review to measure PA.

Variation was also found in the methods used to measure cross-gen PA across the papers (Table 2.5). Frequency of cross-gen PA was examined by using either a Likert scale (three to six item scale per week) (Beets et al., 2006; Cleland et al., 2011, Maata et al., 2014; Moore et al., 2014; Rosenkranz & Dzewaltowski, 2011; Timperio et al., 2013; Vander Ploeg et al., 2013; Rhodes et al., 2015), or by report of number of days during the past week that cross-gen PA had been performed (Beets et al., 2007; Heitzler et al., 2006; Jackson et al., 2008; Springer et al., 2006; Zhao & Settles, 2014). In addition, not all of the papers took into account or acknowledged that child participants may take part in cross-gen PA with one or more parents, or the possible influence of gender upon the dyad if only one parent participant’s engagement in cross-gen PA was measured. Although, there appeared an indication that same gender dyads have a different prevalence of cross-gen PA compared to different gender dyads (Dunton et al., 2013a). The parent participants’ gender was not reported in four papers (Table 2.5) and two papers used only mother parent participants (Rhodes et al., 2015; Rosenkranz & Dzewaltowski, 2011). This, as acknowledged by the authors, may have affected their results.

In summary, despite the variation in approaches found across the papers described in Table 2.5, some consensus was found across studies that examined both cross-gen PA and the broader context of child total PA. These papers suggest that there was an association between cross-gen PA, as an aspect of parental support, and a child’s total PA. This finding is not surprising because cross-gen PA and a child’s total PA are not independent
variables. Although cross-gen PA is examined within these papers as an aspect of parental support, cross-gen PA is also a component of a child’s and parent’s total PA.

Eleven of the 13 papers examining the relationship between cross-gen PA, as an aspect of parental support, and a child’s PA occurred in an international context. Only two papers described the association between cross-gen PA, as an aspect of parental support, and child total PA in the Australian context (Cleland et al., 2011; Jackson et al., 2008). Both of these studies reported a positive association between cross-gen PA and child PA, but in the study by Cleland et al. (2011), the association was only confirmed in daughter-mother dyads. Jackson et al. (2008) found that parents who were concerned about their child’s level of inactivity provided a less supportive environment for PA (and their children were found to be less active) than those parents who were not concerned about their child’s level of inactivity. In addition, concerned parents were less likely to participate in cross-gen PA at least once per week, which led the authors to conclude that the challenge for public health will be to translate parental concerns into action (Jackson et al., 2008).

**Cross-generational physical activity as part of a multifaceted approach to parental support for child’s physical activity**

Twelve papers examined cross-gen PA as just one facet of a multifaceted approach to parental support for a child’s PA (Table 2.6). These papers have been included in the narrative review but it is acknowledged that none of them enable the reader to isolate the relationship between cross-gen PA and a child’s total PA. The papers can only broadly inform future research about the different parental support factors that have been examined but the overarching conclusion gained from them is that parental support, incorporating cross-gen PA and other forms of support combined together, is positively associated with a child’s total PA. The findings that are reported in Table 2.6 relate only to the multifaceted approach of parental support and do not reflect associations between child PA and other factors, such as ethnicity and SES, which might have been examined in the papers.
Australian perspective of cross-generational physical activity

Cross-gen PA has not been explored in any depth in the Australian context. Only four published papers that described the Australian context of cross-gen PA were found in the decade covered by this review and cross-gen PA was not the focus of the research in any of the papers (Cleland et al., 2011; Hendrie, Coveney & Cox, 2011; Jackson et al., 2008; Stanley et al., 2012). That is, cross-gen PA came up serendipitously in findings focused elsewhere. Cross-gen PA was identified by children as something that would help them to be more active in a paper that described Australian children’s perceptions of what influenced their engagement in after-school PA (Stanley et al., 2012). As discussed in the preceding section, two further Australian papers examined the relationship between cross-gen PA, as a discrete aspect of parental support, and a child’s total PA (Jackson et al., 2008; Cleland et al., 2011). Finally, Hendrie et al. (2011) investigated “opportunity for role modelling of PA” (p. 527) as an eight item measure, with six items related to engagement with cross-gen PA and two items related to rules about television and computer game use. Rules related to sedentary behaviour would not be expected to form a part of cross-gen PA, as defined within the thesis, which accounts for this paper’s inclusion in Table 2.6.

Discussion

This narrative review has found that parents play an influential role in their children’s PA. The frequency of engagement in cross-gen PA can vary widely between dyads. Cross-gen PA may include more PA categories than just exercise and sports. However, the narrative review also identified significant gaps in current knowledge of cross-gen PA. For example, the influences and factors that lead a child and parent to perform PA together are not well understood and the extent of cross-gen PA between children and their parents is unclear. Some barriers to engagement in cross-gen PA have been identified but these have not been explored in depth.

The low number of relevant studies (n = 37) identified in this narrative review underscores not only the scarce attention that has been paid to cross-gen PA in PA research but also the narrow lenses through which it has been examined. One third of the papers in the last
decade (n = 12) provided some description of cross-gen PA but as cross-gen PA was rarely the focus of the research, little in-depth analysis of cross-gen PA was provided. For example, Wright et al. (2010) noted that both boys and girls wanted their parents to engage in more cross-gen PA but this was not expanded upon as Wright et al did not examine why the children were keen on cross-gen PA. Just over a third (n = 13) of the papers examined cross-gen PA purely as one discrete element of parental support for a child’s PA. A further third (n = 12) of the papers did not differentiate cross-gen PA distinctly from other forms of parental support for a child’s PA.

Thus, the focus of the majority of research identified for this narrative review has been on cross-gen PA as an element of parental support for a child’s PA. There is no doubt that this aspect of cross-gen PA is important and more qualitative research has been recommended to examine how children and parents define and perceive parental support (Barr-Anderson et al., 2010). However, it is also valuable to consider whether cross-gen PA amounts to more than just parental support for child PA. Other elements of cross-gen PA are evident within the papers included in this narrative review. For example, Thompson et al. (2009) suggested that cross-gen PA was important to parents because it increased communication between participants and was enjoyable. Additionally, a small number of papers took a more holistic viewpoint of cross-gen PA, by describing a reciprocal relationship between cross-gen PA and both child and parent PA (Belanger-Gravel et al., 2015; de la Haye et al., 2014). Pentz and Riggs (2013) included cross-gen PA in their study of executive cognitive function, as they thought it may promote child-parent bonding. Consideration of these papers in conjunction with a number of accepted models for PA suggests that there are large gaps in understanding of cross-gen PA.

Social ecological models of behaviour acknowledge the complexity of influences on a specific behaviour by suggesting that there are many sources of influence, such as individual, psychosocial and environmental sources (including social and cultural contexts). These models are based upon the work of Urie Bronfenbrenner (1977) and can incorporate social cognitive theory (Bandura, 1986), which describes interchangeable relationships (known as reciprocal determinism) between behavioural, personal (e.g. psychological, biological) and environmental factors. Social ecological models have
previously been acknowledged as appropriate models to depict PA behaviour (Dzewaltowski, 1997; Giles-Corti, Timperio, Bull & Pikora, 2005; Sallis & Owen, 1997; Welk, 1999). Taking a social ecological approach to cross-gen PA would suggest that cross-gen PA should be examined from the perspective of a PA partnership. Viewing cross-gen PA as a PA partnership acknowledges the impact that a child may have upon their social environment, including their family. It suggests a reciprocal relationship, in which the child influences the parent and their PA at the same time as the parent influences the child and their PA. This is conceptually very different to the one-sided influence assumed by the previous descriptions of cross-gen PA found in this narrative review. This suggests that cross-gen PA requires further in-depth investigation. Thus, the goal of this thesis is to provide such in-depth investigation of cross-gen PA.

It is acknowledged that the narrative review contained within this chapter is subject to a number of limitations. The review was limited to published research and therefore may be subject to publication bias. In addition, the review was limited to papers written in English and it should not be assumed to represent findings reported in papers published in other languages. The narrative review includes studies published within the period January 2006 to June 2016, in order to meet its stated goal of considering evidence pertaining to contemporary forms of cross-gen PA. It should be acknowledged that such a focus may omit key references from earlier time periods, though this limitation has been partially addressed by reporting the findings of previous systematic reviews, covering several decades of published studies in the introduction to the current narrative review. Finally, it is important to acknowledge that the focus of this narrative review was limited to topics represented in the databases and broad search terms documented within the method section of this chapter. Practically, this means that papers that were not contained within those databases or that would not be identified by the key search terms would not have been considered in the narrative review contained within this chapter.

Conclusion

In conclusion, possibly the most important PA partnership, the PA partnership between a child and parent, has received relatively limited attention in past research and has mostly
been conceptualized and examined in previous studies as just one possible element of parental support for child PA. Cross-gen PA warrants further investigation, in both Australian and international contexts, as it has the potential to contribute to the PA levels of two populations that have been found to be at risk of inactivity: children and parents. More broadly, the roles of cross-gen PA in supporting child and parent relationships and their health and well-being are largely unknown. Social ecological models suggest that investigating cross-gen PA from either a child or parent perspective alone will limit understanding of cross-gen PA. Thus a mixed-method exploratory program of research, including both child and parent voices, was planned and conducted, and is reported in this thesis.
CHAPTER THREE
STUDY ONE – A SURVEY OF CROSS-GENERATIONAL PHYSICAL ACTIVITY

Introduction
This chapter presents the methods and findings of a survey on cross-gen PA which was conducted in late 2012. The survey is the first study in a program of mixed methods research which sought to investigate the occurrence and experience of cross-gen PA within a single geographically defined population within NSW, Australia. The chapter concludes with a discussion of the findings and their implications for policy and practice in cross-gen PA health promotion.

As identified in the preceding narrative review (Chapter Two), there has been limited research on cross-gen PA, and the available research involving cross-gen PA has been focused upon a broader agenda than cross-gen PA itself; cross-gen PA has been just one PA context among many examined. For example, cross-gen PA has been viewed in most instances simply as one medium by which parental support for child PA can be demonstrated and the role that the child may play in cross-gen PA has been largely ignored. In addition, public health campaigns aimed at increasing PA frequently seem to advocate cross-gen PA by showing families walking, cycling or kicking balls together (Commonwealth of Australia, 2014a), despite little explicit mention or discussion of cross-gen PA. This background suggests that further research and information are needed to increase understanding of the child-parent PA partnership and therefore the current research considers both adult and child perspectives on cross-gen PA.

Aim
The aim of this study was to establish a description of cross-gen PA that considered both child and parent perspectives. It was envisaged that this description of cross-gen PA would guide the development of the second, qualitative phase of the research (Study Two) by:
• establishing whether the phenomenon of cross-gen PA exists in the Australian context and, if so, in what contexts of relevance to the chosen population;
• informing the development of semi-structured interview guides; and
• providing broad knowledge of cross-gen PA that could underpin the interpretation of findings from the subsequent qualitative research.

With this in mind, the survey was designed to answer four key research questions:

1. What form does cross-gen PA take when performed by primary school aged (Years 4 and 5) children and their parents?
2. Do parents and children perform any components of their ‘general’ PA as cross-gen PA?
3. What factors influence engagement in cross-gen PA?
4. What do primary school aged children and parents like and dislike about cross-gen PA?

**Methods**

**Research design**

A cross-sectional, descriptive survey design was selected as the most suitable approach for gaining an initial broad, descriptive understanding of cross-gen PA. A descriptive study design is well suited to identifying current cross-gen PA practice as such designs explore and describe phenomena in real-life situations (Boyton & Greenhalgh, 2004).

**Research setting**

A single geographically-defined community in Australia was chosen as the research setting. The study location was a large rural city in NSW (approximate population size 50,000 according to the Australian Bureau of Statistics, 2013). This research setting meant that the survey and subsequent qualitative research were conducted with participant samples derived from a single, clearly-defined community so that the findings from the studies could be legitimately considered together. This community was chosen because it

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1 Due to the scheduling of Study One and Study Two over a two year period, the year groups of the child participants changed from Study One to Study Two.
was large enough to provide a diverse sample of children and parents, ensuring that a broad cross-section of views about cross-gen PA was captured through the survey.

**Participants**

In 2012, at the start of this program of research, the Australian PA guidelines for children and adults were disseminated by the Australian Government using three separate leaflets: one focused on children aged 5 to 12 years, a second addressed to children aged 12 to 18 years and the third provided for adults (Australian Government, 1995; Commonwealth of Australia, 2004). The PA guidelines for children aged 5 to 12 years were documented in a leaflet addressed to their parents, whereas the leaflet for older children was addressed to the children themselves (Commonwealth of Australia, 2004). As the studies described in this thesis aimed to examine the PA that children and parents performed together, it was decided to examine a child population that might be more dependent on parental support, such as those in the age range 5 to 12 years. Since the survey reported in this chapter was part of a mixed methods program of research, with data collection spread over two years, children in Years 4 and 5 at school were chosen as the target population for the survey, so that the same population would still be within the target age range during the second study’s data collection phase. The upper end of the 5 to 12 year age range was chosen because younger children are less likely to understand the purpose of research (Kuther & Posada, 2004; Susman, Dorn & Fletcher, 1992) and this lower level of understanding impacts upon their ability to give informed assent. In addition, younger children in the 5 to 12 year age range have a lower level of ability to read and understand survey questions, with poorer recall for retrospective questions, and these issues impact upon their reliability in providing meaningful survey responses (Saywitz, 1987; Borgers, de Leeuw & Hox, 1999).

A convenience sampling approach was used, in which every primary school located within the boundaries of the geographically-defined community was invited to be involved in the study and every eligible child in each participating school, along with their parents, was invited to complete the survey (see Survey Administration and Data Collection, following,
for further details). The following criteria were used to determine eligibility when recruiting child and parent participants:

**Inclusion criteria**
- children in Years 4 or 5 at a primary school situated within the geographically-defined area.
- parents, step-parents, or carers who resided with children in Year 4 or 5 of a primary school situated within the geographically-defined area.

**Exclusion criteria**
- children in a Year level outside the specified school Year range
- children whose parents did not consent to their participation in the survey
- parents with no children within the specified school year range
- children or parents with a health condition that may affect PA participation.

Thus, participants may have lived outside the geographically-defined area but still attended a school (children) or had children who attended a school (parents) that was situated within the specified geographic area.

**Survey instruments**
In the absence of any existing suitable survey instrument to collect data about cross-gen PA, two survey instruments, a child questionnaire and a parent questionnaire (Appendix C and Appendix D respectively), were developed. Both questionnaires were made available in paper and online formats. The *Easy English Writing Style Guide* (2005) was used to guide use of English, layout, size of writing and font selection in the design of both of the questionnaires.

Questionnaire construction was informed by results of the narrative review (Chapter Two) and scrutiny of previously published questionnaires about PA (Boynton & Greenhalgh, 2004). For example, the length, content and wording of the Physical Activity Questionnaire for Older Children (PAQ-C), which is a seven day recall questionnaire for
children aged 8-14 years that measures PA during the school year, were considered. The PAQ-C was viewed as a good example of a PA questionnaire for children, as it has been found to have acceptable internal consistency and reliability in studies measuring child PA at school (Crocker, Bailey, Faulkner, Kowalski, & McGrath, 1997).

A broad definition of PA (recommended by the World Health Organisation, 2005) was used in the questionnaire (see Figure 3.1). This enabled information about a wider range of potential cross-gen PA categories rather than the narrower emphasis of much previous research of exercise and sport only.

<table>
<thead>
<tr>
<th>Physical activity might include:</th>
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</thead>
<tbody>
<tr>
<td><strong>Transport/commuting activity:</strong> e.g. walking or riding a bike</td>
</tr>
<tr>
<td><strong>Exercise:</strong> e.g. weight training, walking for exercise, exercise classes</td>
</tr>
<tr>
<td><strong>Sports:</strong> e.g. netball, football, golf, tennis, touch football</td>
</tr>
<tr>
<td><strong>Recreational Activities:</strong> e.g. bush walking, park activities such as throwing a Frisbee, kicking a ball, rollerblading</td>
</tr>
<tr>
<td><strong>Active chores:</strong> e.g. vacuuming, cleaning, gardening</td>
</tr>
<tr>
<td><strong>Occupation Activities:</strong> e.g. work of a physical nature such as walking, labour, moving furniture or digging</td>
</tr>
</tbody>
</table>

*Figure 3.1. Definition of physical activity used within the survey.*

Both child and parent cross-gen PA questionnaires were designed to contain a mix of open- and closed-ended questions regarding the types and amounts of cross-gen PA and overall PA performed over the seven day period that preceded administration of the relevant questionnaire. The questionnaires focused on the categories of PA (e.g. chores, sport or exercise) and types of PA (e.g. cleaning, walking or netball) that were performed, rather than the intensity of the PA (e.g. light, moderate or vigorous) as self-reporting of PA intensity has been found to be less accurate than other, more quantitative measures (Welk, Corbin & Dale, 2000). Where respondents were asked to list their PA, an ‘other’ category was included to allow respondents to list their PA somewhere even if they were unsure of the category to which it belonged. The category that was assigned in the data set for any
type of activity listed as ‘other’ was subsequently determined by the researcher using the
definition of PA categories provided by the World Health Organisation (2005).

Open-ended questions were used to explore participants’ likes and dislikes of cross-gen
PA. The open-ended questions enabled participants to use their own words to express
themselves, rather than having to select from pre-determined sets of response options.

The parent questionnaire also contained a set of additional questions pertaining to how and
when cross-gen PA was performed, as well as a more comprehensive set of demographic
questions. The child questionnaire contained a total of 17 questions and the parent
questionnaire a total of 31 questions. Both the child and parent questionnaires were
arranged into three sections. The first section (questions 1-6 in the child questionnaire and
questions 1-5 in the parent questionnaire) was designed to orientate the respondent to what
constituted PA and prompt them to consider all PA categories and provide information
about their total PA and levels of sedentary behaviour. The middle section (questions 7-
11 in the child questionnaire and questions 6-20 in the parent questionnaire) sought
information from respondents about their cross-gen PA, and the final section (questions
12-17 in the child questionnaire and questions 21-30 in the parent questionnaire) contained
demographic questions.

Supervisors provided feedback about the questionnaires during their construction and the
final development of the instruments was informed by advice from an expert panel, whose
role was to critique the questionnaires and provide feedback about readability level,
cultural appropriateness and clarity of questions. The panel comprised an expert from the
field of child education, two teachers who were working with the targeted age groups, and
the local Aboriginal Community Liaison Officer with the NSW Department of Education
and Training. According to the Australian Bureau of Statistics (2013) just over 2% of the
population of the geographically-defined community in which the survey took place were
of Aboriginal or Torres Strait Islander descent. It was therefore important to take steps
to ensure the research was approached in a culturally appropriate way.

2 These are the Indigenous peoples of Australia
Pilot study

A pilot study was conducted to identify any issues with the questionnaires’ performance, as survey tools (which is a process recommended by Calnan (2013)). The pilot study involved four child and parent dyads who were from the same age range as the intended respondents but who attended schools outside the targeted postcode areas. These people provided feedback to the researcher about the clarity of the questions, and the general readability and their comprehension of the questionnaires. This feedback enabled further refinement of the questions. For example, occupational PA was added to the PA categories in the parent questionnaire following feedback received from a parent during the pilot study. Pilot testing of the questionnaires continued until no further issues were identified.

Survey administration and data collection

Schools were asked to invite families to participate and to administer the child questionnaire. Using this approach, the administration of the child questionnaire could be undertaken by responsible adults who were not the child’s parents, so that child responses were not influenced by the presence of a parent, particularly one with whom they may share cross-gen PA (see also Ethical Considerations following). Administering the survey through the schools also enabled accurate determination of response rates.

After permission was granted by the NSW Department of Education and the Catholic Schools Office of the local Diocese, every principal at every primary school (Public, Catholic and Independent) within the geographically-defined community was approached via letter and invited to take part in the survey (Appendix E). The researcher then contacted the principals by telephone to discuss the research and their potential involvement, which entailed the following four elements:

1. Distribution of research invitations and packages to parents via Year 4 and 5 students.
2. Assistance with collection of the parental consent forms and adult questionnaires
3. Distribution of research invitation reminders.
4. Administration of the child questionnaire to Year 4 and 5 students whose parents had given permission.
Every primary school that agreed to take part in the survey granted permission for the researcher to distribute, via class teachers, an invitation package to every Year 4 or 5 student. The students were asked to take their packages home to their parents. The package contained:

- a parent information sheet (Appendix F) and paper version of the parent questionnaire (Appendix D),
- a child information sheet (Appendix F) and a copy of the child questionnaire (Appendix C), so that the parents could see what they were permitting their child to take part in,
- a parental consent form (Appendix F), and
- a stamped, addressed envelope for return of the parental consent form and the parent questionnaire.

Since no significant difference in levels of PA have been found between genders in target populations for children and parents (Australian Bureau of Statistics, 2013), both genders were targeted in the research. Thus, no attempt was made to target a specific gender of either child or parent.

As noted previously, two separate information sheets were produced to explain the survey to children and parents (Appendix F). These information sheets were developed alongside the survey, using the *Easy English Writing Style Guide* (2005) and were reviewed by the expert panel, mentioned in relation to questionnaire development previously, for readability and cultural appropriateness.

An online version of the parent questionnaire was created using Survey Monkey Pro (n.d.). Principals of the schools were given the option of using an online version of the survey when administering the survey to participating students from their school, but none took up this option. In addition, no school permitted invitations and a link to the online version of the parent survey to be distributed to parents via the school newsletter or the school email distribution list. Only the paper version of the parent survey was therefore distributed but these did provide parents with a link to the online version of the survey and
the option of completing the survey online instead of on paper. A short response time of between 7 and 10 days was allowed between administration of the parent package by each school and administration of the child questionnaire. All schools provided a drop box to collect parent questionnaires and parental consent forms for child participation. All participating schools were requested to send out a single survey reminder to the parents via the students; four schools agreed to send the reminder notice.

The survey administration and associated data collection took place between September and December 2012, during the school term. Administration of the child questionnaire occurred at school. The researcher attended each school to inform the students about the study, to answer any questions and to discuss that participation was voluntary, emphasizing that participants were free to withdraw at any time. The researcher left the room prior to administration of the questionnaire, which was managed by the class teacher, as this was the approach approved by the schools and education authorities. Only students whose parents had provided consent were invited to participate, and those students not taking part were given a similar type of task (e.g. a writing task) by the teacher to perform while participants completed the questionnaire. Child assent to participation in the survey (for those children whose parents had consented to their participation) was assumed with the return of the child questionnaire. The class teacher returned the completed questionnaires to the researcher.

Ethical considerations and gate-keeper approvals

Ethics approval and permission to conduct the research were gained from the Charles Sturt University Research Human Ethics Committee (protocol number HREC 2012/126, Appendix A) and from the NSW Department of Education and the Catholic Schools Office of the Diocese. The research ethics guidelines provided by the Australian National Health and Medical Research Council (Australian Government, 2007) informed the study design. The involvement of children in the research raised several ethical issues that required close consideration. These are outlined below, including the actions taken to mitigate associated risks.
The recruitment of the study participants via schools minimized the need for the researcher to gain access to personal information (for example, names and addresses of children and their parents were not required by the researchers as the schools distributed the invitations to participate in the survey). Therefore the anonymity and privacy of children and their parents was maintained during the recruitment phase of the survey. The identity of the community in which the study took place has not been revealed, to further preserve participant privacy.

Privacy was not the sole reason for recruitment via schools. As the child questionnaire pertained to PA that the child performed with their parents, it was considered important to administer the questionnaire in an environment that was independent of parents. The child questionnaire was administered at each school, by the most appropriate staff member identified by the principal. The school staff member was able to control the environment in which the child took part. This allowed the child privacy to fill in the questionnaire in an independent manner, with no influence from parents or other adults to answer questions in any particular way. Only children of parents who had returned a signed parental consent form were asked if they wished to take part and those children were invited to participate by providing them with a child information sheet at school. Importantly, this procedure provided distance for the child from the parent who had consented for them to take part. This distance allowed the child to decide for themselves whether or not to fill in the questionnaire, without any perception of direct parental pressure. One child, whose parent had provided consent, declined to participate in the study at the point of being offered the survey, stating that she did not wish to take part.

The possibility that children might feel coercion from their teacher to take part was also discussed before recruitment began at a meeting with the school principal. No principals took up the suggestion from the researcher of using a school counselor or librarian to administer the questionnaire to overcome this potential for teacher-student power-dependency to influence child participation. Rather, the school principals indicated a belief that the information sheet adequately explained to children of this age group that it was entirely up to them to decide whether or not to take part, that the survey was not a test, and that there would be no consequences if they chose not to take part.
Data analysis

Data from the parent and child surveys were coded and entered into a spreadsheet. School cooperation rate calculations and child and parent survey response rate calculations were based on the methods recommended by the Institute for Social and Economic Research (Lynn, Beerten, Laiho & Martin, 2001). School cooperation rates were defined as the percentage of schools from those identified and approached that were willing to participate and included consideration of all eligible schools (e.g. all primary schools within the selected geographical area). Survey response rates were defined as the percentage of respondents invited to participate in the survey who met the criterion of having completed the survey. A decision rule was established, a priori, in which surveys of respondents who had completed less than 51% of questions would be eliminated from data analysis. Lastly, a completion rate (frequency count) for each question in each questionnaire was calculated, to enable questions with low completion rates to be identified.

Descriptive analysis of responses to closed-ended questions was conducted to examine overall patterns of responses provided in each of the questionnaires. Frequency counts and percentages were generated in this process and have the capacity to reveal the patterns and trends within the data (Argyrous, 2013). Using frequency counts and percentages to represent the survey data enabled the establishment of a quantitative description of the phenomenon of cross-gen PA within the closely-related child and parent populations that were surveyed.

Confidence intervals were calculated wherever it was important to understand the precision of population estimates derived from the survey data provided by the participants. The confidence intervals employed were 95% confidence intervals around the estimates, from the survey samples, of the respective percentages of the underlying populations of children or parents that would have given the same response, if asked the same question. The method used to calculate these 95% confidence intervals for a proportion was the Wilson score method without continuity correction (Newcombe, 1998). Confidence interval calculations were conducted using the confidence interval calculator provided by PeDRO (Herbert, 2013). Lastly, questions 17 and 18 from the parent
questionnaire employed a five point Likert scale but the responses were converted to a	hree-point scale (‘Agree’, ‘Disagree’ and ‘Neither Agree nor Disagree’) prior to analysis
by summing the frequency counts from positive scores (Agree and Strongly Agree) and
summing the frequency counts from negative scores (Disagree and Strongly Disagree).
This approach provided a clearer picture of the general trends in the responses to these
questions than the picture provided based on the 5-point scale.

Content analysis, as described by Hsich & Shannon (2005), was used to analyse responses
to the open ended questions. Raw data were coded inductively, grounded in the
respondents’ language, to generate an orderly catalogue comprising key words, phrases
and concepts (Kondracki, Wellman & Amundson, 2002). Central themes were then
identified by combining related concepts or sub-themes, as Bos and Tarnai (1999) and
Neuman (2003) suggest. The researcher used colour-coding as a tool in this process, as it
was considered the most practical way to code sentences that contained more than one
theme or concept (Neuman, 2003).

**Results**

*School cooperation rate*

Eight of the 16 schools (50%) approached to take part in the study agreed to allow the
research invitations to parents to be distributed via their Year 4 and 5 students (Table 3.1).

<table>
<thead>
<tr>
<th></th>
<th>Public Schools</th>
<th>Independent Schools</th>
<th>Catholic Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>All schools within</td>
<td>10</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>geographically-defined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>community of NSW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participating Schools</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Non- participating schools</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Table 3.1. School cooperation rate.*
Child response rates

Four hundred and ninety-two invitations were distributed to parents via individual children who were eligible to participate in the survey, from the cooperating schools. One hundred children received parental consent and, of those, 99 child respondents provided child assent for participation in the survey by completing and returning their questionnaires. Therefore, the child response rate was 20%.

Parent response rates

In response to the 492 invitations distributed to parents via eligible children from the cooperating schools, 57 parent respondents returned paper versions of the parent questionnaire by mail and six parent respondents completed the online version of the parent questionnaire. Thus, dividing the total response count of 63 parents by the number of invitations, the parent response rate was 13%.

As a result of the low cooperation rate from the schools and subsequent poor response rate from the questionnaires, the analysis was adjusted to identify the impacts of the smaller sample size on the precision of the results by calculating 95% confidence intervals around the population estimates.

Completion rates

All child respondents (n = 99) completed at least 82% of the questions (14 out of 17 questions). All parent respondents (n = 63) completed at least 81% of the questions (25 out of 31 questions). Thus, data from all child and parent questionnaires were included in the data analysis and none were excluded due to being more than 51% incomplete.

In the child questionnaire, the closed-ended question regarding place of residence had a completion rate of 93%, which was the lowest completion rate among the closed-ended questions. The two open-ended questions, regarding what children liked or disliked about cross-gen PA, had completion rates of 88% and 84% respectively.
In the parent questionnaire, the closed-ended question regarding income had a completion rate of 82%, which was the lowest completion rate of the closed-ended questions. The open-ended questions regarding what parents liked or disliked about cross-gen PA had completion rates of 94% and 60% respectively. The open-ended questions regarding PA that they would not consider doing as cross-gen PA had a completion rate of 73%.

**Demographics**

*Demographic profile of child respondents*

Nearly two-thirds of child respondents were female (N = 97, 63% female, 37% male, 2 children did not answer the question) and there was a nearly even representation of Year 4 and 5 students (N = 98, 49% Year 4, 51% Year 5). Table 3.2 provides a summary of the children’s years of birth, numbers of siblings and places of residence. Sixty-five percent of children with siblings had at least one younger sibling. Figure G1 in Appendix G provides further details on the ages of the siblings of the children.

*Table 3.2. Years of birth, numbers of siblings and places of residence of child respondents.*

<table>
<thead>
<tr>
<th>Years of birth (N = 98)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2</td>
</tr>
<tr>
<td>2001</td>
<td>40</td>
</tr>
<tr>
<td>2002</td>
<td>48</td>
</tr>
<tr>
<td>2003</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numbers of siblings (N = 99)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>4 + siblings</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Places of residence (N = 92)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban area of city or large town</td>
<td>78</td>
</tr>
<tr>
<td>Urban area of a small town or village</td>
<td>10</td>
</tr>
<tr>
<td>Small acreage or hobby farm</td>
<td>8</td>
</tr>
<tr>
<td>Large acreage or working farm</td>
<td>4</td>
</tr>
</tbody>
</table>
The following three figures (Figures 3.2, 3.3 and 3.4) provide an overview of child respondents’ PA and sedentary behaviour levels.

Figure 3.2 shows the numbers of different types of PA children reported they performed during the weekdays and weekend days in the week prior to the questionnaire. Two thirds of children reported they performed two or more different types of PA both through the week and at weekends, and around a quarter of them performed four or more different types of PA on week days and on weekends.

Figure 3.2. Proportions of child respondents (N = 98) who reported they engaged 0, 1, 2, 3, 4, 5 or 6+ different types of PAs on the weekdays and weekend days in the week prior to questionnaire administration.
Child respondents were asked what they did most of the time in school breaks (‘recess’ and lunch), besides eating (Figure 3.3). They were asked to circle one of the following options: sat down (talking, reading, playing on the computer); stood around or walked around; ran or played a bit; ran around or played quite hard; or ran and played hard most of the time. As can be seen in Figure 3.3, the majority of children (81%) reported they were active during break times.

Figure 3.3. Proportions of child respondents’ (N = 99) who reported they engaged in various levels of PA during school breaks, in the week prior to questionnaire administration.
Child respondents were also asked to identify how many hours they spend as screen time during a typical weekday and weekend day (Figure 3.4). As can be seen in Figure 3.4, the majority of children (66%) reported they typically engaged in less than two hours of screen time on each weekday whereas 58% reported they typically engaged in more than two hours of screen time on each weekend day.

*Figure 3.4. Typical amounts of screen time per day child respondents (N = 98) reported they spent on each week day or weekend day.*
Demographic profile of parent respondents

Similar to the child respondent profile, nearly two thirds (64%) of the parent respondents (N = 61) were female and 36% were male. Eighty-five percent of parents (N = 61) were born in Australia and no parents (N = 61) identified as being of Aboriginal or Torres Strait Islander descent. Table 3.3 provides a summary of parents’ ages, the numbers of their children and their places of residence. Assuming that Year 4 and 5 children are aged 10 – 11 years, there were larger numbers of additional older children (n = 69, 56%, range 12 – 27 years) than additional younger children (n = 54, 44%, range 1 – 9 years) in families represented by a parent. Figure G2 in Appendix G provides further details on the ages of additional children.

Table 3.3. Age ranges, numbers of children and places of residence of parent respondents.

<table>
<thead>
<tr>
<th>Age range in years (N = 61)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 24</td>
<td>2</td>
</tr>
<tr>
<td>25 - 29</td>
<td>2</td>
</tr>
<tr>
<td>30 - 34</td>
<td>5</td>
</tr>
<tr>
<td>35 - 39</td>
<td>18</td>
</tr>
<tr>
<td>40 - 44</td>
<td>44</td>
</tr>
<tr>
<td>45 - 49</td>
<td>21</td>
</tr>
<tr>
<td>50 - 54</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of children (N = 63)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>39</td>
</tr>
<tr>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>6+</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Place of residence (N = 61)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban area of city or large town</td>
<td>74</td>
</tr>
<tr>
<td>Urban area of small town or village</td>
<td>5</td>
</tr>
<tr>
<td>Small acreage or hobby farm</td>
<td>20</td>
</tr>
<tr>
<td>Large acreage of working farm</td>
<td>1</td>
</tr>
</tbody>
</table>
Figure 3.5 provides a summary of the highest levels of education reported by parent respondents. As can be seen in Figure 3.5, the majority of parent respondents (54%) had attained a Bachelor Degree or higher.

*Figure 3.5. Highest level of education or qualifications attained by parent respondents (N = 61).*
Figure 3.6 provides a summary of the occupational group reported by parent respondents. As can be seen in the figure below, the largest occupational group reported by parents was ‘professional’ (45%), with no parents reporting ‘laborer’ or ‘machinery operator’ occupations.

Figure 3.6. Reported occupational group of parent respondents (N = 60).
Figure 3.7 indicates the approximate weekly household income (before expenses) reported by parent respondents. This question had the lowest completion rate of all closed-ended questions, with 82% of parents answering the question.

Figure 3.7. Approximate weekly household income reported by parent respondents (N = 52).
Parent respondents (N = 61) were asked to provide an average time that they spent on recreational screen time (television, computer time and non-active computer games) per day. The average time a parent reported they spent on recreational screen time per day was 2.4 hours (mean = 143 minutes, SD = 91.4).

Figures 3.8 and 3.9 provide an overview of parent respondents’ total PA. Figure 3.8 summarises the number of days, in the week prior to questionnaire completion, during which parents performed at least thirty minutes of PA. The mean number of days during which parents had performed thirty minutes or more of PA was 5.14 days (SD = 1.8 days). This measure of PA participation is likely to be higher than similar estimates found in other surveys, as PA intensity was not specified in the question they were asked.

Figure 3.8. Reported number of days in the previous week during which parent respondents (N = 63) performed at least 30 minutes of PA (at any level of intensity).
Figure 3.9 shows the total time spent by parent respondents in undertaking PA of different categories, in the week prior to administration of the questionnaire. As can be seen in Figure 3.9, large proportions of parents had engaged in over 2 hours of active transport (30%), exercise (52%), chores (72%) and occupational activities (48%). However, there were also large proportions of parents who did not engage in any active transport (49%), sport (73%), recreation (34%) or occupational activities (34%).

Figure 3.9. PA participation of parent respondents (N = 62) in the previous week, by PA type and duration (minutes).
Participation in physical activity generally and in cross-generational physical activity

Child respondents were first asked to list every type of PA that they had performed in each over-arching PA category in the previous week. Later in the questionnaire they were asked to list all types of PA they had performed in the previous week as cross-gen PA (Figure 3.10).

*Figure 3.10. Child respondents’ (N = 99) engagement in PA generally and in cross-gen PA (N = 99) over the previous week, by PA categories.*
Likewise, parent respondents were asked to list every type of PA that they had performed in each over-arching PA category in the previous week and to list all types of PA they had performed in the previous week as cross-gen PA (Figure 3.11).

Figure 3.11. Parent respondents’ (N = 63) engagement in PA generally and in cross-gen PA (N = 63) over the previous week, by PA categories.

Occupational PA has been omitted as a category from Figures 3.11 and 3.12, as no parents performed occupational PA in a cross-gen PA context.
Figure 3.12 provides a direct comparison of the cross-gen PA engagement rates of children and parents, showing the percentages of child and parent respondents who had undertaken cross-gen PA during the seven day period prior to administration of the questionnaire. Please note that children may be referring to cross-gen PA performed with any of two or more parents (step-parents or carers), whereas parents were asked to specifically report the cross-gen PA they performed with only their Year 4 or 5 child; no parent reported having more than one child within that school year range. Thus the opportunities to undertake cross-gen PA may have been more frequent for children, as they generally had more potential cross-gen PA partners with whom they could perform PA.

![Chart showing cross-gen PA engagement rates](image)

**Note:** as each respondent could tick more than one box, numbers may not add up to 100%.

*Figure 3.12. Proportions of child (N = 99) and parent (N = 63) respondents who had undertaken cross-gen PA in the previous 7-day period, by PA category.*
Do respondents perform some types of PA as both general physical activity and as cross-generational physical activity?

Child and parent respondents were asked to name the three types of general PA and the three types of cross-gen PA they most commonly undertook. Children reported that cycling (n = 35), running (n = 35) and walking (n = 34) were their most common general PA types, whereas walking (n = 46) and cleaning (n = 20) were their most common cross-gen PA types. Figure 3.13 shows the number of different types of PA that children reported they undertook as both general PA and cross-gen PA. Sixty-five percent of children reported that they performed at least one of their three most common types of PA regularly with their parent.

![Figure 3.13. Proportions of child respondents (N = 88) regularly undertaking 0, 1, 2 or 3 types of PA as both general PA and cross-gen PA.](image-url)
Parent respondents reported that walking (n = 57), cleaning (n = 39), gardening (n = 12) and weight training (n = 12) were their most common general PA types, whereas walking (n = 41), recreational ball activities (n = 22) and swimming (n = 19) were their most common cross-gen PA types. Figure 3.14 shows the number of different types of PA that parents reported they undertook as both general PA and cross-gen PA. Ninety percent of parents reported that they performed at least one of their three most common types of general PA regularly with their Year 4 or 5 child, as cross-gen PA.

![Figure 3.14. Proportions of parent respondents (N = 59) regularly undertaking 0, 1, 2 or 3 types of PA as both general PA and cross-gen PA.](image)

In order to provide a fuller description of the broader context of total and cross-gen PA, further summaries of child and parent total PA and cross-gen PA by PA type have been included in Appendix H.
Participation of mother and father respondents by categories of cross-generational physical activity

Figure 3.15 shows the percentages of father and mother respondents who had undertaken cross-gen PA from specific categories of PA during the seven day period prior to administration of the questionnaire.

![Bar chart showing proportions of father and mother respondents who had undertaken cross-gen PA from specific categories in the previous 7-day period.](chart)

Note: as each respondent could tick more than one box, numbers may not add up to 100%.

*Figure 3.15. Proportions of father and mother respondents (N = 61) who had undertaken cross-gen PA from specific categories in the previous 7-day period.*
Cross-gen active transport and commuting

Figure 3.16 shows the types of cross-gen active transport and commuting undertaken by child and parent respondents, in the seven day period prior to administration of the questionnaire.

Note: as each respondent could tick more than one box, numbers may not add up to 100%.

Figure 3.16. Proportions of child (N = 99) and parent (N = 63) respondents who had undertaken specific types of cross-gen active transport in the previous 7-day period.
Cross-gen exercise and sports

Figure 3.17 shows the types of cross-gen exercise and sport undertaken by child and parent respondents in the seven day period prior to administration of the questionnaire.

Note: as each respondent could tick more than one box, numbers may not add up to 100%.

Figure 3.17. Proportions of child (N = 99) and parent (N = 63) respondents who had undertaken specific types of cross-gen exercise and sports in the previous 7-day period.
Cross-gen recreational activities

Figure 3.18 shows the types of cross-gen recreational activities undertaken by child and parent respondents in the seven day period prior to administration of the questionnaire.

Note: as each respondent could tick more than one box, numbers may not add up to 100%.

Figure 3.18. Proportions of child (N = 99) and parent (N = 63) respondents who had undertaken specific types of cross-gen recreational PA in the previous 7-day period.
Cross-gen active chores

Figure 3.19 shows the types of cross-gen active chores undertaken by child and parent respondents in the seven day period prior to administration of the questionnaire.

Note: as each respondent could tick more than one box, numbers may not add up to 100%.

Figure 3.19. Proportions of child (N = 99) and parent (N = 63) respondents who had undertaken specific types of cross-gen active chores in the previous 7-day period.
Prevalence and frequency of participation in cross-generational physical activity

Figure 3.20 shows the number of different types of cross-gen PA child respondents reported they performed during the weekdays and weekend days in the week prior to the questionnaire. Seventy-seven percent of children reported performing at least one type of cross-gen PA during the weekdays and 83% during the weekend.

Figure 3.20. Proportions of child respondents (N = 98) who had engaged in cross-gen PA on the weekdays and weekend days in the week prior to questionnaire administration, depicted as number of different types of cross-gen PA undertaken.
Figure 3.21 shows the typical frequency of participation in cross-gen PA reported by parent respondents. As can be seen in Figure 3.21, the majority of parents (91%) reported performing cross-gen PA at least once per week.

For each weekday in the week prior to administration of the questionnaire, at least 25% of parent respondents reported performing 30 minutes or more of cross-gen PA with their Year 4 or 5 child (intensity not specified). More parents reported performing 30 minutes or more with their Year 4 or 5 child at the weekend (Saturday 58% and Sunday 42%, intensity not specified). A summary of the parent-reported prevalence of cross-gen PA participation in the seven days prior to administration of the questionnaire is provided in Appendix I.
**Parent-reported seasonal variations in participation in cross-generational physical activity**

Parent respondents were asked about seasonal variations in cross-gen PA participation (Figure 3.22). They were asked to rank the likelihood of cross-gen PA occurring in each season on a scale of 1 – 4, with 4 considered most likely and 1 considered least likely. Summer was reported as the time the majority of parents (62%) were most likely to engage in cross-gen PA with their Year 4 or Year 5 child. Winter was reported by 76% of parents as the time they were least likely to perform cross-gen PA.

![Figure 3.22](image_url)

*Figure 3.22. Mean (standard error of mean) parent-reported (N = 63) likelihoods of undertaking cross-gen PA, by season (4 = most likely, 1 = least likely).*
Parent-reported holiday time and term time relative participation in cross-generational physical activity

Parent respondents were asked to comparatively rank the likelihood of participation in cross-gen PA in both holiday and term times as either more likely, the same or less likely than in the other period (Figure 3.23). As can be seen in Figure 3.23, nearly two-thirds of parents (59%) ranked holidays as a time that they were more likely to engage in cross-gen PA.

Figure 3.23. Proportions of parent respondents (N = 61) who reported when cross-gen PA was more likely to occur.
Suitability of specific parental PA types for sharing as cross-generational physical activity

Parent respondents were asked the following questions: “are there any PAs that you do regularly that you do not consider doing with your Year 4 or 5 child?”; and “why would you not consider doing this PA with your Year 4 or 5 child?” Three broad reasons that parents did not share some types of PA with their child as cross gen PA were identified from 46 responses provided by parents to each of these questions, and these broad reasons are listed in Table 3.4, with examples of related parent responses provided in italics.

Table 3.4. Reasons given by parent respondents (N = 46) for not sharing particular PA types with their Year 4 or 5 child as cross-gen PA.

<table>
<thead>
<tr>
<th>Parent reason</th>
<th>Nominated types of PA</th>
<th>Examples of parent responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable context</td>
<td>Adult touch football</td>
<td>Adults only.</td>
</tr>
<tr>
<td></td>
<td>Tennis</td>
<td>Underage for gym entry.</td>
</tr>
<tr>
<td></td>
<td>Weight training</td>
<td>Work environment.</td>
</tr>
<tr>
<td></td>
<td>Occupational activities &amp;</td>
<td>Too dangerous.</td>
</tr>
<tr>
<td></td>
<td>farm activities</td>
<td></td>
</tr>
<tr>
<td>Unsuitable physical</td>
<td>Gym</td>
<td>We ride 100 km plus.</td>
</tr>
<tr>
<td>activity</td>
<td>Running</td>
<td>She is too young to go.</td>
</tr>
<tr>
<td></td>
<td>7 km walk</td>
<td>Go with running group – too far.</td>
</tr>
<tr>
<td></td>
<td>Cycling in a group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long cycle rides</td>
<td></td>
</tr>
<tr>
<td>Parent personal time</td>
<td>Walking</td>
<td>I need time alone to think.</td>
</tr>
<tr>
<td></td>
<td>Tai Chi</td>
<td>Need to focus on my exercise.</td>
</tr>
<tr>
<td></td>
<td>Yoga</td>
<td>This is my personal time.</td>
</tr>
</tbody>
</table>
Factors that help parental engagement in cross-generational physical activity

Table 3.5 provides a summary of parent responses regarding the extent to which specific factors helped their engagement in cross-gen PA. Enjoyment in the activity, time efficiency and active environments near the home, and at home, gained high levels of agreement as factors which help parental engagement in cross-gen PA.

Table 3.5. Levels of agreement regarding parent-reported factors that helped parental engagement in cross-gen PA.

<table>
<thead>
<tr>
<th>Facilitating Factor</th>
<th>Agree %</th>
<th>Neither Disagree or Agree %</th>
<th>Disagree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyment - in the activity (N = 62)</td>
<td>95</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Time efficiency – a way for both child and adult to gain their PA (N = 61)</td>
<td>95</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Active environment near the home (N = 63)</td>
<td>94</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Active environment at home (N = 63)</td>
<td>91</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Occupying children whilst looking after them (N = 63)</td>
<td>79</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Good access to sports facilities (N = 63)</td>
<td>69</td>
<td>20</td>
<td>11</td>
</tr>
</tbody>
</table>
Factors that limited parental engagement in cross-generational physical activity

Table 3.6 provides a summary of parent responses regarding the extent to which specific factors limit their engagement in cross-gen PA. In general, less consensus was found amongst parents as to which factors limit their engagement when compared to the consensus found in regards to factors that increase their engagement in cross-gen PA. As can be seen in Table 3.6, lack of time and weather factors gained the most consensus regarding limiting engagement in cross-gen PA. In addition, parent lack of interest was approximately evenly split between agree (40%) and disagree (41%).

Table 3.6. Factors which limit parental engagement in cross-gen PA.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Agree %</th>
<th>Neither Disagree or Agree %</th>
<th>Disagree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of time (N = 63)</td>
<td>83</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Rain (N = 63)</td>
<td>65</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>Cold weather (N = 63)</td>
<td>56</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Heat and humidity (N = 63)</td>
<td>54</td>
<td>14</td>
<td>32</td>
</tr>
<tr>
<td>Reduced daylight hours (N = 63)</td>
<td>53</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>Cost of activity (N = 63)</td>
<td>49</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Other children (N = 62)</td>
<td>45</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Parent lack of interest (N = 63)</td>
<td>40</td>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>Fitness Mismatch (N = 63)</td>
<td>38</td>
<td>29</td>
<td>33</td>
</tr>
<tr>
<td>Poor access to facilities (N = 63)</td>
<td>35</td>
<td>22</td>
<td>43</td>
</tr>
<tr>
<td>Child lack of interest (N = 63)</td>
<td>31</td>
<td>21</td>
<td>48</td>
</tr>
<tr>
<td>Skills mismatch (N = 63)</td>
<td>24</td>
<td>35</td>
<td>41</td>
</tr>
</tbody>
</table>
Who commonly initiates cross-generational physical activity?

Figure 3.24 summarises parent responses to the question which participant commonly initiated cross-gen PA.

*Figure 3.24. Parent responses (N = 63) indicating who commonly initiated cross-gen PA.*
**What did respondents like about cross-generational physical activity?**

The majority of child and parent respondents listed more than one factor that they liked about cross-gen PA. For example, responses from one child respondent and one parent respondent were as follows:

Child respondent: *Fun, keeping fit and spending time with them.*

Parent respondent: *Fun, time to talk, enjoy the exercise. Good for parents, children and dog, fresh air.*

The coding that resulted from the analysis of child and parent responses regarding factors they liked about cross-gen PA can be found in Appendix J. A number of themes were identified, including themes that were shared by children and parents and themes that were specific to children or parents alone (Table 3.7).

*Table 3.7. What do you like about cross-gen PA? Themes and examples of related responses from child (N = 87) and parent respondents (N = 59).*

<table>
<thead>
<tr>
<th><strong>Shared themes</strong></th>
<th><strong>Child responses</strong></th>
<th><strong>Parent responses</strong></th>
</tr>
</thead>
</table>
| **Time together** (with a sub-theme of bonding) | *I like it that we’re together*  
*I like it that we’re together* | *Shared family time*  
*Shared family time* |
| *It’s fun and also bonding at the same time* | *Great mother/daughter time*  
*Great mother/daughter time* |
| **Talking, communication opportunity** | *We have some good conversations*  
*We have some good conversations* | *Time to talk together*  
*Time to talk together* |
| **Fun, enjoyment, laughter** | *It’s a lot of fun*  
*It’s a lot of fun* | *We both enjoy it*  
*We both enjoy it* |
| **Health benefits** | *We both get fit*  
*We both get fit* | *Healthy for both of us*  
*Healthy for both of us* |
| **Child themes** | **Parent themes** |
| **Parental Support** | **Role modeling** |
| *They encourage me* | *Being a positive role model* |
| **Specific activities** | **Skill development** |
| *I like swimming, walking and running* | *Ensuring they are developing the right skills* |
What did respondents not like about cross-generational physical activity?

A number of themes regarding aspects of cross-gen PA that respondents did not like were identified. These included themes that were shared by child and parent respondents and themes specific to children or parents alone (Table 3.8). The percentages of children and parents who specifically responded “nothing” or “nil” or another similarly-worded response are included in Table 3.8 and do not include the non-response rates for this question.

Table 3.8. What do you not like about cross-gen? Themes and related responses from child (N = 59) and parent respondents (N = 39).

<table>
<thead>
<tr>
<th>Shared themes</th>
<th>Child responses</th>
<th>Parent responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil, nothing, not applicable</td>
<td>47%</td>
<td>21%</td>
</tr>
<tr>
<td>Negative experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When they embarrass me</td>
<td></td>
<td>Their complaints if they are asked to participate and don’t want to</td>
</tr>
<tr>
<td>Fitness mismatch (tiredness)</td>
<td></td>
<td>Slower pace on bike than would prefer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Child themes</th>
<th>Parent themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power mismatch</td>
<td>Fighting/ arguing</td>
</tr>
<tr>
<td>They are always telling you what to do</td>
<td>Kids fighting</td>
</tr>
<tr>
<td>Not enough time spent</td>
<td>Conflicts with other commitments</td>
</tr>
<tr>
<td>When they have to go</td>
<td>Timing clashes with other things I’d prefer to do</td>
</tr>
<tr>
<td>Skills mismatch</td>
<td>Too hard</td>
</tr>
<tr>
<td>They kick the ball too hard to you</td>
<td>We live on a hill</td>
</tr>
<tr>
<td>Specific activities not enjoyed</td>
<td>Just want to relax</td>
</tr>
<tr>
<td>Walking</td>
<td></td>
</tr>
<tr>
<td>Feeding horses</td>
<td></td>
</tr>
<tr>
<td>Cleaning</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

This survey was designed to gain a description of the cross-gen PA practices of Year 4 and Year 5 children and their parents within a geographically-defined, Australian regional population. All respondents reported performing cross-gen PA, indicating that it is a widespread phenomenon amongst respondents. The survey revealed that cross-gen PA was a phenomenon that occurred across all categories of PA, with ‘chores’, and ‘sport and exercise’, reported to be the two most common categories of cross-gen PA undertaken by children and parents. This finding concurs with previous studies that have found that cross-gen PA occurs across a wide variety of locations (Dunton et al., 2013b) and across different categories of PA and not only exercise and sports (Thompson et al., 2009). However, due to the scarcity of previous research about cross-gen PA, there are no previous findings about types of cross-gen PA against which to compare the wide variety of types of cross-gen PA identified through the survey used in this research.

The survey found that large proportions of children (61%) and parents (90%) performed at least one of their three most common types of PA regularly in a cross-gen PA context. In addition, amongst this population, cross-gen PA regularly occurred (83% of children performed at least one type of cross-gen PA at weekends and 91% of parents performed cross-gen PA at least once per week). These findings suggest that the cross-gen PA partnership often involves the participants’ common PA types and highlights the possible contribution of cross-gen PA to both children’s and parents’ total PA. Similar levels of cross-gen PA prevalence have been found by other researchers, with 88% of children reporting at least one bout of cross-gen PA per week (Pentz & Higgs, 2013) and 89% of child-parent pairs engaging in short bouts of MVPA together (Dunton et al., 2013a).

The current survey asked if there were any PA that parents would not perform as cross-gen PA and a number of unique reasons namely, unsuitable context, unsuitable PA and parent personal time were identified. Thus, the survey revealed some of the difficulties faced when performing PA in the cross-gen PA context. It is also interesting that power, fitness and skill mismatches were elements of cross-gen PA highlighted by children as aspects that they did not like. Taken together, these findings suggest that
differences in age and physical capacity are factors that may limit and impact the experience of the cross-gen PA partnership.

A wide variety of types of cross-gen PA were reported within the survey ranged from cleaning, swimming, running and walking to playing in the park. The survey was dependent on the respondents’ self-reporting, and self-reporting of PA has been found to be less accurate than other, more quantitative, measures (Welk, Corbin & Dale, 2000). Thus, this survey focused more upon the types of PA and numbers of interactions of respondents with PA than on the durations and intensities of PA participation. It is likely that examples of light, moderate and vigorous PA are all represented across the various cross-gen PA categories. Examples of the types of cross-gen PA reported in the survey are found in Figure 3.25 and shown within the PA intensity spectrum from light to vigorous.

![Figure 3.25. Intensity of cross-gen PA defined by metabolic equivalents, with survey respondent examples.](image)

Adapted from “What is Sedentary Behaviour?” (n.d.)

There is consensus that the benefits of PA are dose related (Haskell et al., 2007). This has led to the development of PA guidelines for both children and adults that refer to minimum recommended amounts of moderate to vigorous PA that a person should accumulate each week (Commonwealth of Australia, 2014). However, in recent years, these recommendations have been complicated by research indicating that minimum levels of moderate to vigorous PA are insufficient to maintain health in otherwise sedentary people (Katzmarzyk, Church, Craig, & Bouchard, 2009). Thus, moderate to vigorous PA and sedentary behaviour are independent factors in maintaining health and research has generally focused on these two ends of the PA intensity scale (Figure 3.25).
3.24). Less attention has been given to light PA and its positive role in maintaining metabolic health (Healy et al., 2008; Poitras, et al., 2016). That said, Canada has recently introduced 24-Hour Movement Guidelines for Children and Youth (Tremblay et al., 2016), which recommend several hours per day of structured and unstructured light PA, in addition to moderate to vigorous PA, sleep and sedentary behaviour recommendations. The current survey provides valuable insight to the types of PA that children and parents perform together, which encompass the full spectrum of PA intensity (Figure 3.25).

Both mother (35%) and father (30%) respondents reported participation in cross-gen sport and exercise. This finding is interesting to consider alongside previous research by Davison, Cutting and Birch (2003) that observed that mothers and fathers may provide parental support to their children in different ways. Davison et al. (2003) found that fathers were more involved with children in cross-gen sport and exercise than mothers, who were found to provide more logistical support. Although the current research finding presents a different picture it is important to acknowledge that with the low response rate of the parents in the current study (N = 63), as it is possible that a proportion of the parent respondents in this study self-selected to participate because they engaged in and were interested in cross-gen PA. Davison et al.’s (2003) study only examined cross-gen sport and exercise. In contrast, the current study found that mother and father respondents also performed categories of cross-gen PA other than cross-gen sport and exercise, including physically-active chores, recreational activities and active transport. Taking into consideration the potential bias in the current study’s results created by self-selection for survey participation, the findings of the current study nevertheless highlight the diversity of cross-gen PA engagement that both mothers and fathers can have and that the influence of gender (child and parent) within cross-gen PA remains unclear.

In a substantial minority of cross-gen PA partnerships, children were found to be the main instigator of cross-gen PA, as a third of parents reported that their Year 4 or 5 child was more likely to initiate cross-gen PA than they were. There is a widespread assumption in PA literature that parents are the “gate-keepers” of their child’s PA (Gustafson & Rhodes, 2006; Rhodes et al, 2016). This finding from the current study suggests that children may have more influence upon PA, and in particular upon cross-
Children and parents were found to share many aspects of cross-gen PA that they liked (e.g. time together and bonding; talking; and fun and enjoyment) and disliked (e.g. ‘nothing’ and ‘fitness mismatch’). However, the importance of investigating both populations was accentuated by the finding that the two populations also identified unique aspects of cross-gen PA that they liked and disliked. Children emphasized their enjoyment of parental support and specific types of cross-gen PA. In contrast, parent respondents reported they gained enjoyment from being a positive role model and ensuring that their child was developing sporting skills. Likewise, the respective generations’ dislikes of cross-gen PA represented, for both children and parents, unique aspects of cross-gen PA that were predominantly focused upon relational aspects of the cross-gen PA. Child respondents highlighted the power, fitness, and skills mismatches, and parent respondents focused upon their children fighting and complaining. Thus, the findings build upon previous research by suggesting additional aspects to cross-gen PA that extend beyond the largely recognized and researched aspects of parental support and modelling (Pugliese & Tinsley, 2007; Yao & Rhodes, 2015).

The survey found that cross-gen PA was more likely to occur during school holidays than during school term times. The survey took place during the school term and the child’s survey was administered through the schools, but the findings suggest that a survey on cross-gen PA performed during holiday periods might result in different findings to a survey performed during term time. This is a novel finding which has not been reported by other studies about cross-gen PA. In a study examining whole family cross-gen PA, Thompson et al. (2009) found that PA engagement was more likely at weekends but they did not mention differences between term time and holidays. It is not clear from the current study why cross-gen PA is more likely to occur during holidays. It is tempting to assume the increase in cross-gen PA in holiday periods may be due to the obvious factor of increased time available during holiday times, especially as lack of time was mentioned as a barrier to cross-gen PA (Table 3.7). However, this
finding requires further exploration to ensure that such assumptions do not obscure other less obvious factors that might be contributing to this phenomenon.

In the current study, parents reported greater consensus when identifying factors that facilitated engagement in cross-gen PA (Table 3.6) than was apparent in the greater variation found among the factors that might limit engagement (Table 3.7). Although some of these limiting factors, such as divergent interests of children and parents, and poor access to facilities have been identified in previous research (Thompson et al., 2009), the current study findings suggest that these were not issues common to all cross-gen PA partnerships. The current findings also suggest that further research to increase understanding of why some child-parent PA partnerships do not encounter or consider such factors as barriers may provide useful insights into the cross-gen PA partnership.

The demographic data collected about parent respondents suggests that parent respondents who identified as professionals self-selected to participate in the survey more than any other group, with 45% of parent participants identifying themselves as professionals and no respondents identifying themselves as a machinery operator or laborers (Table 3.2). The recruitment strategy for the survey enabled the preservation of respondents’ anonymity and privacy whilst allowing a description of cross-gen PA to emerge but it also meant that no data were collected to allow comparisons between respondents and non-respondents. However, the Australian Bureau of Statistics data from the 2011 Census for the area (Australian Bureau of Statistics, 2013)³ indicated that 19% of the adult population of the geographic area in which the survey was conducted identified as professionals, 7% as machinery operators and drivers, and 10% as laborers. Previous research has suggested that socio-economic status and education status may impact the way that parents provide PA support to their children, with parents of higher socio-economic status (measured by socio-economic status of school, Brockman et al, 2009) and parents who have attained a higher education level (Belanger-Gravel et al., 2015) being found to have higher levels of engagement in cross-gen PA. This suggests that the parent sample gained in the survey may have been more likely to engage in cross-gen PA than those from the same region who did not participate.

³ Full reference has been withheld in reference list to protect anonymity of the respondents.
A major strength of the current study is that respondents were recruited from both of the two populations that take part in cross-gen PA, namely children and parents. The survey employed both closed and open questions to produce responses, thus giving respondents the chance to express their views whilst eliciting information about cross-gen PA that was designed to inform the next stage of the mixed method program of research.

The study also has a number of limitations. No school permitted promulgation to parents of an invitation and a link to the parent survey via the school newsletter or school email distribution list, and this is likely to have affected the parent response rate. The relatively low response rate of the parent respondents and, in particular, the difficulty recruiting father respondents, is a limitation that may have affected the results. It was noticeable throughout the findings that child respondents reported more episodes of cross-gen PA than parents and this may be explained in part by child respondents having more than one cross-gen PA partner if they have two or more parents (e.g. step-parents) and carers. Finally, the use of an expert panel and a small pilot study failed to identify and address every content issue of the questionnaires prior to their administration. In particular, Question 9 from the parent questionnaire would have benefited from having another response option available, as it progressed from ‘monthly’ cross-gen PA episodes to ‘never’ (Figure 3.22). No pilot study respondents identified this as a problem but it was discovered during analysis that two parent respondents who reported they ‘never’ performed cross-gen PA did perform some types of cross-gen PA. Parent respondents also advised that cross-gen PA was more likely during the holidays and thus, in retrospect, the response options on Question 9 did not allow for engagement in cross-gen PA that is less than once a month. Therefore, in future surveys, it would be beneficial to include ‘rarely’ or ‘occasionally’ as a response option to such a question, between ‘monthly’ and ‘never’, although it is acknowledged that this may not have changed the responses in the current survey.

**Implications of the survey findings**

The findings from the survey demonstrated that children and parents engaged in cross-gen PA and accentuated the importance of exploring the cross-gen PA phenomenon from the perspectives of both generations. In other words, in future research, parent
participants’ opinions and experiences should not be used as a substitute voice for child participants. Cross-gen PA occurred across a wide variety of types of PA, suggesting that research targeting cross-gen sport and exercise alone, may provide a rather limited and narrow understanding of cross-gen PA partnerships and cross-gen PA within families. The survey has highlighted a number of aspects of cross-gen PA that require further qualitative exploration in order to gain a more in-depth understanding of the phenomenon and each population’s role within the cross-gen PA partnership. Qualitative investigations ought to include: how cross-gen PA partnerships manage different physical capacities; more exploration of how cross-gen PA is initiated; and, information regarding experiences of cross-gen PA. In addition, input is needed from both populations. The finding that families are more likely to engage in cross-gen PA during holiday periods has implications for researchers examining the phenomenon of cross-gen PA and for public health programs aimed at promoting cross-gen PA, as it suggests that school and holiday time should be treated as two distinct periods. As this study is part of a mixed methods program of research, recommendations of the full program of research are considered as a whole on page 274.

**Conclusion**

This chapter has provided a report of a descriptive survey conducted as the first part of this mixed methods program of research into cross-gen PA. The survey found that, within the chosen geographically-defined population, cross-gen PA was performed frequently and across a wide variety of PA types. This finding suggests that cross-gen PA has the potential to contribute to both a participant’s total PA and to provide an alternative to sedentary behaviours, particularly during holiday time periods. The survey also provided some insight into the complexity of the PA partnership by showing that in a substantial minority of PA partnerships, children may initiate cross-gen PA and that both children and parents share likes and dislikes about cross-gen PA in addition to each identifying likes and dislikes unique to them. Importantly, findings from the survey suggest that cross-gen PA involves more than parental support for PA and modelling of a healthy behaviour from parent to child. Study Two will explore why children and parents perform cross-gen PA and their experiences with cross-gen PA.
CHAPTER FOUR
STUDY TWO: EXPLORING CROSS-GENERATIONAL PHYSICAL ACTIVITY EXPERIENCES OF CHILDREN AND PARENTS

Introduction

The narrative literature review (Chapter Two) showed that cross-gen PA had received modest attention in previous PA research. Study One (Chapter Three) found that cross-gen PA occurred in a wide variety of contexts and was performed across a wide-range of categories of PA, including numerous types of active chores, recreation, active transport, and exercise and sport. The aim of Study Two, which is introduced and described here with findings reported in Chapters Five to Seven, was to gain a deep understanding of cross-gen PA, drawn from the personal experiences of Year 5 and 6 children and their parents. Additionally, the research sought to identify and describe factors that influenced cross-gen PA experiences and engagement, particularly those that might not have previously been considered. The overarching research questions that guided Study Two were:

- Why do children and parents perform PA together?
- What factors influence child and parent engagement in cross-gen PA?
- What is the experience of cross-gen PA from both a child and parent perspective?

These questions sought to address key gaps in knowledge of cross-gen PA. Qualitative research was chosen as the most appropriate approach to answer these questions. This chapter will detail and discuss the ontology and epistemological stance of Study Two, along with its theoretical framework, methodology and methods.

Ontology and Epistemology

As the narrative literature review (Chapter Two) showed, most previous research on cross-gen PA has been performed within the empirico-analytical paradigm using quantitative methodologies. However, the research questions for Study Two necessitated an inductive approach in order to develop understanding and knowledge
about human experiences within social contexts and the multi-dimensionality of the cross-gen PA experience.

*Ontology* describes assumptions about the nature of reality (Guba & Lincoln, 1994). There were likely to be many, perhaps contradictory, accounts of cross-gen PA not least because cross-gen PA involves at least two participants, from two different generations who may perceive an episode of cross-gen PA very differently. This is likely to result in multiple realities of cross-gen PA. Embracing the existence of multiple realities was important to reach the depth of understanding needed to fill the gap in knowledge on cross-gen PA especially as it relates to children. In Study Two the child’s perception of cross-gen PA was no less valid or important than that of the adult’s. In this respect, this study adopts the relativism ontological assumption that there are many diverse ways of perceiving reality (Crotty, 1998). In other words, reality is socially constructed and unique to that individual.

*Epistemology* concerns theories of how people know something and make sense of the world (Labonte & Robertson, 1996). As there were likely to be multiple realities of cross-gen PA, it follows that it was likely that participants would construct multiple meanings from the same experience. Constructivists believe that truth and meaning are not discovered but instead constructed within a social context (Crotty, 1998). Congruent with the ontological position of relativism, within a constructivism perspective there may be multiple truths or meanings associated with a phenomenon (Guba & Lincoln, 1994). The constructivist stance was adopted for Study Two because of its alignment with the ontological position of relativism. The author believed that individuals’ experiences of cross-gen PA were likely to be unique and grounded within their social context. Thus, consistent with the constructivist stance, the research was conducted within an interpretive dialectic paradigm, with the intention of illuminating the multiple realities and understandings of cross-gen PA, their commonalities and differences.

**Theoretical Framework**

The *theoretical framework* is the philosophical stance in which a researcher positions the methodology and from which a number of assumptions will be made (Crotty, 1998). The interpretive research paradigm is consistent with the author’s personal
views of the world, of how reality is constructed, and of the subjective nature of knowledge. Conducting Study Two within an interpretive paradigm meant that there were clear and congruent links between:

- the phenomenon being explored;
- the author’s ontological and epistemological stance; and
- the nature of knowledge generated by the research.

Cross-gen PA takes place in a family, which in turn is situated within a community or possibly multiple communities, and as such it is culturally bound and influenced by the norms and expectations of those communities. It also occurs within the wider world in which these communities exist, and is made known through schools, sports groups, media and similar cultural conduits. Exploring cross-gen PA within an interpretive paradigm acknowledges that the PA partnership between a child and parent will have been influenced by their interactions within their family, community and culture, and will have evolved from their history, language and action (Schwandt, 1994). The interpretive paradigm recognises the need to understand a phenomenon from the perspective of the participants and to reveal how people make sense of shared experiences (Fossey, Harvey, McDermont & Davidson, 2002). Researchers adopting the interpretive research paradigm are open to discovery of unforeseen elements and have the flexibility to redirect the research if novel understandings become apparent (Powers & Knapp, 1995).

In Study Two, the author sought to gain an in-depth understanding of the experiences of cross-gen PA in participants’ lives. From the many methodologies available for use within an interpretive paradigm (e.g. hermeneutics, phenomenology, narrative inquiry and symbolic interaction), hermeneutics was considered to be the most congruent methodology for addressing the research purpose and questions. Hermeneutics is discussed next.

**Methodology**

In hermeneutics, understanding involves interpretation via language, or in other words, the study of texts (Liamputtong, 2013). Hermeneutic scholars suggest it is language that provides both understanding and knowledge (Kinsella, 2006). Two branches of hermeneutics are generally acknowledged within qualitative research literature:
philosophical, in which the intention is to understand; and critical, in which the intention is emancipation⁴ (Trede, Higgs & Rothwell, 2009). As the purpose of Study Two was to increase the author’s understanding of both child and parent perspectives, philosophical hermeneutics was used as the methodology.

Modern philosophical hermeneutics began its evolution beyond the study of the Bible and literature in the early nineteenth century (Paterson & Higgs, 2005). This evolution was led by the philosophers Friedrich Schleiermacher and Wilhelm Dilthey who saw the potential of hermeneutics as a methodology for understanding in human sciences (Crotty, 1998). Martin Heidegger and Hans-Georg Gadamer further expanded the work of these early philosophers (Crotty, 1998). For example, Heidegger used the dialectic element of hermeneutics to explicate the pre-understandings of phenomenological interpretation, incorporating the dialectic elements of hermeneutics into hermeneutic phenomenology (Crotty, 1998). Heidegger’s student, Gadamer, highlighted the importance of tradition, including culture and the researcher’s past in the development of interpretations (Rundell, 1995). Using philosophical hermeneutics, a researcher observes people’s interactions, the contexts in which they take place, and how they shape communication and understandings (Trede, Higgs & Rothwell, 2009).

Thus, hermeneutic methodology is used to understand an experience from within a particular socio-historical context. The researcher is integral to the research and has the objective of providing a socially constructed account of the phenomenon (Crotty, 1998). Although, there is no intention within such research to find a single reality or universal truth to enable generalisation, the challenge for the researcher is to provide a faithful interpretation of the phenomenon within the population studied. In Study Two, a faithful interpretation was that which aimed to create a deep understanding of cross-gen PA from the perspectives of the research participants.

In order to facilitate a deeper understanding of human experiences, philosophical hermeneutics involves the use of three related principles: the hermeneutic circle, the dialogue of question and answer, and the fusion of horizons (Kinsella, 2006). The hermeneutic circle (or spiral) describes the process from which understanding of the

⁴ Refers to the emancipation or setting free of a dominated group in society by the knowledge gained as a result of critical hermeneutics.
text as a whole is revised by immersion and re-interpretation of its parts, leading to a deeper understanding of the experience (Liamputtong, 2013). Cyclical movement between the parts of the text and the whole text leads to iterative review, reconsideration and eventual interpretation of the whole text through an active spiralling process rather than a one dimensional categorization (Paterson & Higgs, 2005). The dialogue of question and answer that occurs between the interpreter and the text is central to analysis in philosophical hermeneutic methodology (Crotty, 1998). Asking questions, and answering those questions using evidence from the text, facilitates the emergence of deep understanding (McLeod, 2001). This deliberate and reflective conversation, often performed by writing in a way that will order and make evident one’s understanding, supports the development of an articulate and constructive interpretation (Trede & Loftus, 2010). The concept of a fusion of horizons was used by Gadamer to describe how previous knowledge merges with new information to formulate new understanding. Thus, present understanding requires knowledge of past understanding (Kinsella, 2006). Essentially, understanding through analysis is not a uni-dimensional process in which new understanding smothers the historical perspective of previous understanding. Instead, previous understanding is re-visited and revised, with reference to new understanding, to aid a final coherent interpretation of the whole text (Paterson & Higgs, 2005). The process of reflecting on and understanding previous positions enables a researcher to develop a deeper understanding of the current position and to distinguish “true prejudices by which we understand, from false ones by which we misunderstand” (Gadamer, 1976, p. 124).

Previous understanding, also known as pre-understanding, is acknowledged in hermeneutics because it provides a historical perspective on how current understanding was obtained. Acknowledging that understanding within research is a constantly changing process and is grounded upon one’s previous history, the hermeneutic approach used in the current research reflects the researcher’s experience of understanding in life. By convention, pre-understandings are usually written in the first person as will be my approach in the next section. The use of the term pre-understandings acknowledges that this was my comprehension at a certain point in time, which in this case was at the beginning of the current research. Though the pre-understandings documented in this chapter represent my first horizon of cross-gen PA within the time period in which Study Two was conducted, they are not reflective of
my life-long first horizon of cross-gen PA. My changing horizons of cross-gen PA throughout my life stem from my previous experiences and understandings of cross-gen PA, first as a child and more recently as a parent.

My pre-understandings

Identifying my pre-understandings regarding cross-gen PA enabled me to develop insight into prior influences on my understanding of cross-gen PA and provided the first horizon within the research from which to build my evolving understanding of cross-gen PA. The identification of my pre-understandings was also a critical first step in enabling the adoption of a naïve perspective whilst carrying out the research.

When I started this research, I had been a physiotherapist for over fifteen years. My practice contexts as a physiotherapist had ranged from large National Health Service hospitals in the South West of England, to small rehabilitation clinics in rural United States of America and regional Australia. One of my passions had been to teach and encourage movement and PA. This passion was driven, in part, by witnessing ever increasing numbers of clients that would not require physiotherapy if only they were performing more regular PA. That is, a lack of PA was often a contributing factor to their presenting condition. I studied dance (in many forms) before I became a physiotherapist and I was previously employed as a choreologist (dance notator) for a contemporary dance company in London for several years. My experience as a dancer and choreologist, combined with my subsequent experience as a physiotherapist, led me to believe passionately in the power of movement in many different forms.

I had not been ‘sporty’ as a child, but I have vivid and joyful memories of ‘catching’ practice out on the lawn with my father and siblings, and also participating in family walks. Therefore, my childhood memories of cross-gen PA were largely positive. I met my husband while I was playing Ultimate Frisbee, when I was a physiotherapy student in Edinburgh, Scotland. We have two children. For me, engaging in PA with my children and as a family, over the past sixteen years, has been a natural extension of the PA partnership that I already enjoyed with their father. My engagement in PA with my children and husband was also influenced by my enjoyable memories of cross-gen PA as a child.
My background provided me with an understanding of cross-gen PA from the perspective of a professional, mother, and child. In addition I have an equally active husband. Therefore, my history provides me with the advantage of having experienced cross-gen PA from several perspectives. However, these perspectives also had the potential to limit my insight and analysis of the data. Therefore, I employed strategies to reduce the impact of assumptions stemming from these pre-understandings and to ensure that I remained open to the development of new ideas grounded in the research data. For example, I kept a research diary to track and monitor my decision making (Appendix K). This and other strategies to enhance trustworthiness and rigour are described later on page 117.

**Methods**

A multi-method research design, comprised of separate child and parent focus groups, family unit interviews, and child and parent individual in-depth interviews, was undertaken in order to address the purpose and research questions of Study Two.

**Setting**

Study Two took place in the same geographical location of NSW as Study One (Chapter Three). Using the schools that had consented to take part in Study One, parent participants who had given permission to be contacted (by providing their contact details at the end of the parent questionnaire) were invited to take part in Study Two.

**Participant recruitment**

Congruent with hermeneutics, a purposive sampling method was used to identify participants willing to talk about their experiences of cross-gen PA and thus enable an in-depth exploration of the phenomenon of cross-gen PA. To ensure that the participants for Study Two were from the same population as that involved in Study One, child participants in Years 5 and 6 were approached to take part in child focus groups at the same schools used in Study One. One year had elapsed between Study One and the commencement of Study Two and so these children had been in Years 4 and 5 at the time Study One was conducted. Recruitment for parent-only focus groups, family unit interviews and separate child and parent in-depth interviews was achieved by approaching the thirty parent participants from Study One who expressed interest
in further engagement in the research by providing their contact details at the end of the parent questionnaire used in Study One. Thus, participants were drawn from the same population and with the same inclusion and exclusion criteria in both studies. Maximum variation sampling (as described by Patton, 2002), based on overall PA level and cross-gen PA level (reported in parent questionnaire in Study One), was used in Study Two to ensure that participants with a broad range of perspectives and experiences were recruited.

**Ethical considerations**

Ethical approvals and permissions to conduct Study Two were gained from the Charles Sturt University Human Ethics Research Committee (Protocol number 2013/127, (Appendix A) and the NSW Department of Education (Protocol number 2013154). Permission was also gained from the Principal of each participating school. The national statement provided by the Australian National Health and Medical Research Council (Australian Government, 2007) guided all ethical decision-making for Study Two. Particular attention was paid to addressing respect and autonomy, and non-maleficence in Study Two. Key ethical considerations related to: ensuring informed consent, avoiding coercion, ensuring anonymity and confidentiality, and minimising harm. The steps taken to address each of these ethical considerations are explained next.

**Respect**

Respecting and upholding the rights of participants to participate voluntarily in the study were identified as key ethical concerns in Study Two, particularly for child participants. Several potential scenarios were identified in which coercion to participate could have occurred. Therefore, a number of strategies were adopted to reduce the risk of coercion and these are described next.

Participant information sheets (see Appendix L for child and parent information sheets) were provided prior to all focus groups and interviews. The participant information sheets emphasised that participants were under no obligation to take part in the study. Parents were notified about the child focus group via participant information sheets that children in Years 5 and 6 took home from school. Both the child and parent
information sheets for the child focus groups emphasised that the study had no formal links to their school, that it was not a test, that participation was voluntary, and that they were free to withdraw from the research at any time.

Parent participants were asked to sign a consent form for themselves and also to sign a parental consent form if they were happy for their child to participate (Appendix M). The 1989 United Nations Convention on the Rights of the Child (“Convention on the Rights of the Child”, 1989) suggested that although children may not be able to fully weigh up the benefits and disadvantages of taking part in a study, they should still be involved in decisions that affect them and they are capable of providing assent to the procedure being undertaken, such as joining in a focus group, a family unit interview, or an in-depth interview. Those children whose parents had signed a parental consent form were therefore provided with a child assent form (Appendix N) which informed the child participant that following their parents giving consent for their participation, it was still their decision whether or not to take part and they could also decide to withdraw from further participation at any stage. All children gave their assent.

Vigilance was maintained throughout the data collection phase; the researcher consciously watched for cues from child participants that they might not be a willing participant. It is important to note that the researcher did not observe any child participants that were unwilling to participate. Prior to commencement of the research, the researcher considered possible coercive scenarios and she mentally rehearsed ways in which a child focus group or a family group interview could be stopped in a diplomatic fashion to prevent coercion continuing. However, none required stopping.

All participants were informed verbally at the start of the interviews and via the written information sheets that interviews would be recorded and transcribed, and that excerpts, using pseudonyms, might be used in later publications, including a thesis. They consented and assented to participation on that basis.

**Non-maleficence**

Safeguarding participants’ privacy was addressed in a number of ways. First, the recruitment of child participants for the child focus groups was via a letter sent out by schools to every family of children in Year 5 and Year 6 at each participating school.
This approach to recruitment meant that the researcher did not gain access to personal information, thus protecting the privacy of children and parents at those schools, whether they agreed to take part or not. The recruitment of parents and children for the other interview methods was by using the contact details of those parents who had participated in Study One and who indicated willingness to be contacted with an invitation to participate in Study Two.

Care was taken at the commencement of each focus group and family unit interview to emphasise that complete confidentiality could not be guaranteed because the research approach used group discussions, and therefore the researcher was not the only person with knowledge of what was discussed. This advice enabled those who did not wish to take part, given this knowledge, to leave, although none did, and it underlined to the participants who took part the potential impact of any disclosure they might make during the group discussions.

Access to audio-recordings of the interviews was restricted to the author, who transcribed all the recordings of the interviews and de-identified the participants in the transcripts by giving them pseudonyms and removing any identifying details. Further details of the data management approach including management of written and audio data is provided later in this chapter.

Due to their age, child participants were considered to be especially vulnerable. Thus, the author thought it was important to engage in detailed preparation for data collection, including considering the author’s previous experience of interviewing people as a health professional and how that differed in a research context. The researcher practised interviewing and conducted several practice sessions with supervisors, colleagues and the researcher’s children who volunteered to assist. These practice interviews enabled the researcher to check that her approach permitted enough flexibility within the framework of the interview guides for participants to speak freely on the topic and explore their experiences of cross-gen PA. Practice participants were asked to provide feedback on ways they thought the focus group or interviews could be improved. In addition, the researcher rehearsed the topic guide prior to each interview to ensure that she paid full attention to participants and was not diverted when the order of topics changed due to the natural progress of the discussion.
A number of strategies were used during the interviews to protect participants’ safety and well-being. The researcher followed the recommendations of Horstmann, Aldiss, Richardson and Gordon (2008) to reduce the hierarchical relationship between the researcher and participants. These recommendations included:

- adopting a relaxed and friendly manner;
- introducing the researcher by her first name;
- giving a brief professional history, in a simple and non-intimidating manner; and
- inviting questions throughout the session and responding to all questions in a careful and considerate manner (Horstmann et al., 2008).

In addition, the researcher reminded participants that they were the experts in their experiences of cross-gen PA and that she was interested in deepening her understanding of cross-gen PA by hearing about their experiences of cross-gen PA. The researcher also provided assurance that participants were not being evaluated about their cross-gen PA experiences.

No interviews were stopped due to concerns about participants’ well-being. However, the researcher was acutely aware of family dynamics and child-parent power differentials. For example, during one family unit interview a child expressed annoyance at her mother’s insistence in getting her up early during the holidays for squad swimming; the researcher checked with the child participant that she was happy to talk about cross-gen PA, which she was. Later in the interview, squad swimming was referred to by both child and parent participants as a comparison to cross-gen PA, but this was done in a conversational tone to inform and compare, rather than a confrontational tone and therefore the interview continued.

**Participants**

Through recruitment, thirty-one children and fifteen parents agreed to participate in the study. Four school principals (three public, one independent) gave permission for their school to be involved in Study Two and five child focus groups were held across these schools (Table 4.1).
Table 4.1. Overview of child focus groups.

<table>
<thead>
<tr>
<th>School</th>
<th>Child Focus Group ID number</th>
<th>School Year</th>
<th>Number and genders of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>6</td>
<td>3 girls, 2 boys</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>5</td>
<td>5 girls</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>5 &amp; 6</td>
<td>4 girls, 1 boy</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5 &amp; 6</td>
<td>4 girls, 2 boys</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>5 &amp; 6</td>
<td>3 girls</td>
</tr>
</tbody>
</table>

Similar to the child focus groups, parent focus groups of approximately 4-6 participants were initially sought, however, smaller sized focus groups were conducted, as some parent participants did not attend their scheduled focus group. The two parent focus groups were attended by mothers only despite two rounds of recruiting of fathers. However, fathers were represented in both the family unit interviews (n = 2) and in-depth interviews (n = 3). The results of the sampling and recruitment process for the parent focus groups, family unit interviews, child in-depth interviews and parent in-depth interviews are shown in Tables 4.2 and 4.3.

Table 4.2. Overview of parent focus groups, family unit interviews and in-depth interviews.

<table>
<thead>
<tr>
<th>Types of focus group or interview</th>
<th>Number of focus groups or interviews</th>
<th>Gender and number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent focus groups</td>
<td>2</td>
<td>2 mothers in each group</td>
</tr>
<tr>
<td>Family unit interview</td>
<td>4</td>
<td>2 with mother, father and child, 1 with mother and daughter, 1 with mother and son</td>
</tr>
<tr>
<td>Child in-depth interview</td>
<td>3</td>
<td>1 girl, 2 boys</td>
</tr>
<tr>
<td>Parent in-depth interview</td>
<td>5</td>
<td>2 mothers, 3 fathers</td>
</tr>
</tbody>
</table>
As can be seen from Table 4.3, a broad spectrum of parent participants were recruited to take part in Study Two. The purposive sampling was achieved by using parent questionnaire data from Study One to ensure a range of parent participants were involved in the research.
Table 4.3. Parent participants’ physical activity data.

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Method</th>
<th>Individual PA level</th>
<th>Cross-gen PA level</th>
<th>Most common type of cross-gen PA performed with child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clare</td>
<td>PFG 1</td>
<td>5</td>
<td>2-3 times per week</td>
<td>Walking, ball activities, cycling</td>
</tr>
<tr>
<td>Debbie</td>
<td>PFG 1</td>
<td>6</td>
<td>Monthly</td>
<td>Cleaning, running, basketball</td>
</tr>
<tr>
<td>Denise</td>
<td>PFG 2</td>
<td>7</td>
<td>Daily</td>
<td>Walking, running, swimming</td>
</tr>
<tr>
<td>Melanie</td>
<td>PFG 2</td>
<td>7</td>
<td>Monthly</td>
<td>Cleaning, tidying up, ball activities</td>
</tr>
<tr>
<td>Julie</td>
<td>Aitken FUI</td>
<td>3</td>
<td>2-3 times per week</td>
<td>Walking, bush walking, cleaning</td>
</tr>
<tr>
<td>Carol</td>
<td>Benson FUI</td>
<td>7</td>
<td>Daily</td>
<td>Walking, bush walking, cleaning</td>
</tr>
<tr>
<td>Alan</td>
<td>Benson FUI</td>
<td>2</td>
<td>Rarely</td>
<td>Gardening, swimming</td>
</tr>
<tr>
<td>Margo</td>
<td>Croft FUI</td>
<td>3</td>
<td>Daily</td>
<td>Walking, cleaning, tidying up</td>
</tr>
<tr>
<td>Dean</td>
<td>Davis FUI</td>
<td>7</td>
<td>2-3 times per week</td>
<td>Cleaning, swimming, kayaking</td>
</tr>
<tr>
<td>Sue</td>
<td>Davis FUI</td>
<td>7</td>
<td>Daily</td>
<td>Cycling, walking, gardening</td>
</tr>
<tr>
<td>Hugo</td>
<td>PII</td>
<td>7</td>
<td>Daily</td>
<td>Walking, cleaning, golf</td>
</tr>
<tr>
<td>Nicole</td>
<td>PII</td>
<td>7</td>
<td>Daily</td>
<td>Walking, cleaning, running</td>
</tr>
<tr>
<td>Veronica</td>
<td>PII</td>
<td>2</td>
<td>Rarely</td>
<td>Walking</td>
</tr>
<tr>
<td>Colin</td>
<td>PII</td>
<td>7</td>
<td>Weekly</td>
<td>Walking, basketball, wrestling</td>
</tr>
<tr>
<td>Greg</td>
<td>PII</td>
<td>7</td>
<td>2-3 times per week</td>
<td>Running, cycling, tennis</td>
</tr>
</tbody>
</table>

PFG – parent focus group, FUI – family unit interview, PII – parent individual interview
Data collection

The research was conducted between August and December 2013 (Figure 4.1).

<table>
<thead>
<tr>
<th>Data collection</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFG 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFG 2</td>
<td></td>
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<td>CFG 3</td>
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<td>CFG 4</td>
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<tr>
<td>CFG 5</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PFG 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFG 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUI 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUI 2</td>
<td></td>
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<td></td>
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<tr>
<td>FUI 3</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>FUI 4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CII 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CII 2</td>
<td></td>
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</tr>
<tr>
<td>CII 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PII 1</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>PII 2</td>
<td></td>
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<tr>
<td>PII 3</td>
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<tr>
<td>PII 4</td>
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<tr>
<td>PII 5</td>
<td></td>
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</tr>
</tbody>
</table>

CFG – child focus group, PFG – parent focus group, FUI – family unit interview, CII – child individual interview, PII – parent individual interview

Figure 4.1. Timing of data collection.
As can be seen from Figure 4.1, data collection began with child and parent focus groups concurrently, then proceeded to family unit interviews which overlapped with child and parent individual interviews. The overlap between family unit interviews and individual interviews occurred due to the pragmatic issue of accommodating participants at times that were agreeable and practical to them.

**Focus groups**

Separate child and parent focus groups were employed to facilitate child and parent participants being able to speak freely about their individual experiences and discuss themes that were important to them but might not have been important to the other generation or might not have been something they wished to discuss in front of the other generation. For example, in child focus groups, the children discussed their enthusiasm for practising their sport and their insights into the advantages of having their parents help them with their chores. Children did not discuss their view that they found cross-gen active chores easier and faster to complete in the presence of their parents during Family Unit Interviews. As well, parent-only focus groups allowed parents to discuss their views on parenting during cross-gen PA in depth without concern that they might offend their children.

Minichello, Aroni, Timewell and Alexander (1996) suggested that the interactions within a group may lead to insights that might not be uncovered by individual interviews, as the context allows participants to build upon responses of other participants. In addition, focus groups are suggested to be an appropriate method for data collection where there is the possibility of a power differential between the researcher and participants, as participants may feel more comfortable and open in the company of friends or peers (Minichello et al., 1996). There was clearly a power differential between the researcher, as an adult, and the child participants; but there may also have been perceived power differences for adult participants because the parents knew that the researcher was a health professional. The use of focus groups was not the only way the researcher tried to reduce power differentials and the other ways are discussed later in this section. The disadvantages of the focus group method include the negative influences that group dynamics might have by influencing a person’s view, as well as silencing those who might not have had the same experiences (Liamputtong, 2013). The researcher was aware of these disadvantages and
consciously strove to moderate group dynamics to ensure that all participant voices were heard and vary to whom she initially addressed a question.

*Family unit interviews*

Family unit interviews were commenced after completion of the focus groups. Family unit interviews have many of the advantages and disadvantages of a focus group setting, which have been described previously. Importantly, family unit interviews provided the opportunity to explore cross-gen PA from the perspective of individual families, thus enabling child and parent participants to use each other’s discussion points and perceptions as a reference point for their own experiences. Although the researcher considered this to be a key method of gaining a comprehensive picture of cross-gen PA, there are inherent power differentials within this method, not only between participant and researcher but also between child and parent and so this issue was carefully managed and other data collection approaches were also used, as discussed in previous and subsequent sections.

*In-depth individual interviews*

Finally, in-depth individual interviews of Year 5 and 6 children and parents were completed to gain further insight into the phenomenon of cross-gen PA. In-depth interviews provided an opportunity for the researcher to explore, in depth, each participant’s personal experience of cross-gen PA, without participant responses being influenced by peers or family members.

*Participant introduction to data collection*

The introduction of participants to each data collection method was structured to ensure that both the welfare of the participants and the focus of the research were understood by participants before they signed their consent forms and interviewing commenced. The elements of the introduction were the same for each method:

- First all group members (including the researcher) were introduced by first name,
- The purpose of the project was explained.
- The facilitator’s credentials were outlined.
Participants were advised that the facilitator was happy to answer any questions at any time.

The ground rules (Appendix O) were discussed. A list of ground rules, which were the researcher’s expectations of boundaries and behaviour towards fellow participants, were presented at the beginning of each episode of data collection involving groups. A brief discussion with participants followed, in which they were asked if there were any other rules they wished to add. No further ground rules were suggested by participants. Presentation of the ground rules provided the researcher with the opportunity to emphasise that she was not looking for particular answers and to encourage participants to express their own views.

The definition of PA employed in the study (Appendix P) was discussed. The researcher considered that it was necessary to discuss the definition of PA for two reasons. First, the researcher discovered that in Study One cross-gen PA took place across a wide variety of categories of PA and the researcher was therefore keen to ensure that all categories of cross-gen PA were explored. The researcher believed the meme of “PA = exercise or sports” was likely to be strong amongst participants and she wanted to ensure that the study allowed all types and categories of PA to be considered. Second, the discussion about what constituted PA provided a prompt for discussion and segue into discussing what types of PA the child and parent, or family performed together.

Participants were provided with a brief summary of what the focus group would involve, for example, brainstorming and drawing/writing (these activities are described in further detail in a following sub-section).

Data collection strategies
The purpose of interviewing is to enable participants to recount their experiences and to tell their stories. Minichello et al., (1995) depicted qualitative interviewing as a purposeful conversation. In the current study, purposeful conversations were achieved by the researcher using strategies described by Liamputtong (2010): (a) paying careful attention to choice of language used to pose questions (for example, avoiding jargon and value statements or judgements); (b) using open-ended questions; and (c) actively listening to engage the participant and confirm that the researcher has understood the participant’s meaning.
Semi-structured interview guides (Appendix Q) were developed from the themes and gaps identified during the literature review and Study One. As Minichello et al. (1995) and Liamputtong (2010) contended, their semi-structured nature provided the researcher with agility and freedom to follow participants’ expressions of their thoughts, ideas and experiences of cross-gen PA. In practice, this meant there was no set ordering of questions; rather, the order of the themed list of questions was adapted according to participants’ responses and to enable further exploration of relevant and meaningful themes and identifying of new themes. Thus, the researcher was responsive to the participants, the data, and the research questions during the interviewing process.

Verifying a participant’s meaning was a strategy that the researcher used throughout data collection to facilitate understanding. This was achieved by the researcher repeating back to the participants what she thought they had told her in order to check that she had understood the meaning of the participants’ responses. This was important for all participants, but it was particularly important for child participants because they were less verbose in their descriptions of cross-gen PA than parent participants. For example, a commonly used phase amongst child participants was that cross-gen PA “was fun”. Asking them “what was fun about it?” did not always elicit a detailed response. So after asking further open-ended questions, the researcher used checking statements such as, “if I were to say to parents looking after a child like you that having a competition is really fun when doing PA together, what would I tell them about why you think it’s fun?” This would often lead to further elaboration of what the child participants understood about “cross-gen PA fun” in that context.

Activities performed during data collection

Credibility, which is an aspect of trustworthiness in qualitative research, is dependent upon researchers providing opportunities for participants to express autonomous views (Liamputtong, 2010). The researcher used a variety of activities to achieve credibility within each data collection episode. The strategies used are outlined in this section.

Each episode of data collection began with a brainstorming session. Participants were asked to name the types of PA that they performed together as cross-gen PA, using the definition of PA (Appendix P) as a stimulus. Then, the list compiled was used to prompt discussion. Child participants were particularly keen to mention their after-
school sports and school activities whereas parent participants frequently mentioned taking their child to a sport and watching them play. The ensuing discussion gave the researcher an opportunity to acknowledge the importance and value of non-cross-gen PA contexts like these, in which parents supported, but did not participate in their child’s PA. The researcher clarified that these instances were not part of cross-gen PA and therefore they were not relevant to the discussion of cross-gen PA. The generation of the list and resulting discussion also enabled participants to start to consider all of the contexts in which they performed cross-gen PA. This was important, as some parents came to the interview happy to take part, but unsure of the value of their contribution, as they did not often perform cross-gen sport and exercise.

Another strategy to facilitate the generation of autonomous viewpoints was to ask child participants to think about doing PA with a parent or parents and then draw a picture to depict their experience. In family unit interviews, parents were also asked to draw while their child drew their own picture. They were told they could draw whatever they wanted in whatever way they wished. They were invited to add cartoon bubbles to explain what they were thinking and feeling while doing their depicted activity. The cartoon bubbles, or as one child participant described them, “clouds with words in them”, appeared popular with child participants of this age group, with some participants opting not to draw but just to write in cartoon bubbles. During the first child focus group, the researcher sat and waited while the children were drawing, however, this caused two problems. First, it created a test atmosphere and did nothing to equalise the relationship between the researcher and the child participants. Additionally, child participants also asked the researcher for her opinion on whether their drawing was “OK” and correct. Therefore, in subsequent child focus groups the researcher also drew while the children were drawing. Child participants tended to begin their drawings faster with this approach, and they asked for less feedback on their drawings. In addition, drawing together appeared to create a more equal atmosphere between the researcher and the child participants. Although the researcher did not formally discuss her drawings with the participants, they were able to look at her drawing at the end of the focus group or interview and ask questions about her drawing.
The drawing activity was used for a number of reasons. First, it was important to develop research strategies that explored cross-gen PA and that were respectful of a child’s view and opinion. The purpose of using drawing was to use a method that was designed to maximise the communication strengths of children. James (1995) suggested using familiar and multi-modal means of communication, such as drawings, stories, and written work, in order to understand a child’s world in a meaningful way. In addition, Butler, Gross and Hayne (1995) found that children may provide more information when they initiate their own memory retrieval. Drawing provided child participants with their own initial prompts and cues when they were discussing their cross-gen PA experiences, rather than prompts derived solely from the researcher’s questions.

Child participants’ drawings were used as a starting point, to initiate discussion, and as suggested by Liamputtong (2007), the children were asked to talk about and interpret their own drawings. Examples of child participants’ drawings are included in Chapters Five, Six, and Seven. Starting the discussion using the drawings as a stimulus meant that discussions evolved from the child participants’ frames of reference about cross-gen PA, and what was important to them. The discussion was not based upon the researcher’s or their parents’ frame of reference. As mentioned previously, all participants who took part in Family Unit Interviews, both children and parents, were asked to draw or write thought and feeling bubbles. All parent participants drew cartoon bubbles. Child participants commenced discussing their own drawings before their parents discussed their own drawings. In adult-only interviews, instead of drawing, participants were asked to describe a recent episode of cross-gen PA from start to finish. The researcher provided prompts as necessary, for example, “how does it start?” and “how does it make you feel?”

Child and adult survey quotes from Study One were used to initiate discussion, for both child and parent participants, about particular themes in cross-gen PA. The researcher found it useful to initiate discussion and reflection about particular topics using these quotes because they minimised the influence of the researcher’s voice and facilitated a closer connection to participants’ voices. Initially, the researcher had planned to ask participants whether it was a child or parent who uttered the quote however she abandoned this plan after the second child focus group, because the child participants
turned from thinking about their experiences of cross-gen PA and instead entered into a “school mode” of trying to get the right answer, which was not the intent of the interview. The change from a discussion atmosphere to a test atmosphere was less pronounced in the first parent focus group but it was still present. Even though the researcher found the answers to this question to be interesting, she stopped asking the question because she realised that it was distracting.

Participants were asked to discuss what influenced their ability to engage in cross-gen PA using the list of cross-gen PA that they had compiled. Participants were given the option of mapping the influences on paper; however, none did.

Notes were not taken during data collection because all events were digitally audio-recorded. This enabled the researcher to fully focus on the participants, their responses, and their welfare. However, immediately after each event, the researcher captured her initial thoughts about the data collection event in a research diary. She also used the research diary to immediately reflect on emerging themes and relationships and record practical issues that she had encountered during the data collection session. The research diary was maintained throughout the research and was a major element in maintaining and demonstrating trustworthiness and rigour. Appendix K provides excerpts from the research diary.

Data management
The researcher created verbatim transcripts of all audio-recorded data. The transcripts were de-identified through the use of pseudonyms for participants and families. Texts were stored in an NVivo database (Version 10). NVivo is a computer software package that aids in the storing, managing, searching, and organising of texts. The NVivo database and other scanned documents, for example participants’ drawings, were stored on a password-protected computer. Paper documents, including parental consent forms for child participation, parent self-consent forms, child assent forms, and adult contact information, were filed separately in a locked filing cabinet, in a locked office at Charles Sturt University.
Data analysis

Data analysis was divided into three phases (Table 4.4). Congruent with a qualitative hermeneutic methodology, the first phase was concurrent data collection and analysis. The researcher conducted preliminary analysis while she recruited new participants to the study. The researcher continued to analyse and recruit participants until she ascertained that new themes were not emerging with the addition of new participants. This was the point of data saturation, after which participant recruitment ceased. Once data saturation was reached, deeper analysis of the data ensued, beginning with a separate analysis of child and parent data. The final phase of analysis was analysis of the phenomenon of cross-gen PA across the entire data set.

Table 4.4. Phases of data analysis.

<table>
<thead>
<tr>
<th>Phase of data analysis</th>
<th>Data set</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Data analysis</td>
<td>8 child texts 11 parent texts 4</td>
<td>• Transcribe each data collection episode</td>
</tr>
<tr>
<td>concurrent with data</td>
<td>family texts</td>
<td>• Summarise key points, ideas and impressions</td>
</tr>
<tr>
<td>collection</td>
<td></td>
<td>• Identify new ideas and add to interview guides</td>
</tr>
<tr>
<td>2 – Separate analysis</td>
<td>Child data set Parent data set</td>
<td>• Choose labels</td>
</tr>
<tr>
<td>of child and parent</td>
<td></td>
<td>• Refine labels by searching for similarities and duplicates</td>
</tr>
<tr>
<td>data</td>
<td></td>
<td>• Group labels to form label trees</td>
</tr>
<tr>
<td>3 – Analysis of entire</td>
<td>Entire data set</td>
<td>• Review label trees to form themes and sub-themes</td>
</tr>
<tr>
<td>data set</td>
<td></td>
<td>• Review, refine, test, and re-group themes and sub-themes</td>
</tr>
</tbody>
</table>

Phase 1 - Data analysis concurrent with data collection

As the researcher began to transcribe the data, she commenced data immersion, which is about engaging with and becoming very familiar with the data; it is a process that facilitates deep analysis (Liamputtong, 2013). The researcher transcribed and conducted a preliminary analysis of each data collection event prior to commencing the next episode of data collection. This process enabled the researcher to monitor the need for further data collection. During preliminary analysis, the researcher generated a summary of the key points from each data collection episode, and she noted key ideas.
and impressions, which were explored in subsequent data collection episodes (Appendix K). The researcher was open to new ideas as they emerged. For example, rewards for cross-gen PA (such as pocket money, IT use, and food) was identified as an emergent theme during the focus groups. The use of rewards had not been identified in previous literature or in the survey, and neither was it an aspect of cross-gen PA that the researcher had considered. Once the researcher identified that rewards were often used in cross-gen PA, she added further questions about rewarding in cross-gen PA to the semi-structured interview guide.

As she listened to the audio-recordings, the researcher critiqued her interviewing technique. She used her reflections to further develop her interviewing technique, such as refining how she worded questions and developing more ease with silences during interviews in order to facilitate participants’ reflections.

Data saturation was reached once no new findings were emerging and existing findings had been explored in depth. Replication in findings is important because it provides depth to the data and confirms understandings (Morse, Barrett, Mayan, Olson & Spiers, 2002). At this saturation point, data collection stopped and the research moved to the next phase of analysis.

*Data analysis subsequent to data collection*

The purpose of the research was to gain a deep understanding of cross-gen PA, drawn from the personal experiences of child and parent participants. The challenge was to be authentic in documenting both child and parent perspectives. That is, it was important that child and parent voices did not become “diluted” by each other. Therefore, care was taken to ensure that child and parent voices were balanced and apportioned equal volume. Practically, this meant that differences between the two generations had to be identified and interpreted, in addition to similarities in their experiences. Thus the researcher decided to analyse child and parent data separately beginning with the child data. Analysis began with the child data to help the researcher keep the child voices to the foreground. This sequencing also helped the researcher to commence coding and interpreting data from a naïve perspective as the children’s perspective were further removed from the researcher’s current experience of cross-gen PA.
Hermeneutic analysis requires a systematic movement between the text as a whole and its component parts, to revise and illuminate understanding through data analysis (Kinsella, 2006). The systematic approach described by Fleming, Gaidys and Robb (2003) to Gadamer’s hermeneutic analysis was employed for the next two phases of data analysis. Child and parent data sets were analysed separately before bringing these components parts together to analyse the entirety of the cross-gen PA phenomenon. Congruent with this approach, key excerpts were identified as representative of the interpretation of cross-gen PA and used in the presentation of the findings.

Phase 2 - Separate analysis of child and parent data

A broad understanding of the data had been developed by the beginning of the second phase of the data analysis, and the researcher was beginning to challenge a number of her pre-understandings. However, the interpretation at this stage was largely descriptive, being based solely on the preliminary analysis that occurred concurrently with data collection.

Coding of the texts in the second phase of data analysis commenced with the researcher reading through the texts line by line and choosing labels that described the words, sentences or paragraphs. To help maintain a strong link with the text, the researcher deliberately endeavoured to choose labels that used the participants’ language. In addition, the categories and types of PA (e.g. chores, active transport, walking, running and swimming) were also coded. After the first round of coding of both child and parent texts there were 374 labels. The researcher used NVivo (Version 10) to help sort the labels and she considered the labels in relation to others identified, and looked for similarities and duplication. This analytical process reduced the labels to 151 and during this process, links between the labels began to emerge as each label was viewed on its own and in comparison to others. The researcher then grouped labels to form label trees and further refined the labels. Two separate maps, those of child and parent, were constructed from the data. The maps were based around time: the beginning of cross-gen PA and the experience of cross-gen PA (see Appendix R for child and parent maps). They were not “complex, elegant and focused” maps (as described by Morse et al., 2001), as not all labels ‘thrived’ within the maps, with some appearing contrived. The researcher used writing, as is congruent with qualitative approaches, as a key
element in the analysis, to facilitate making sense of the data and to refine her understanding. In this phase, the researcher wrote about child and parent data separately. She also wrote cameos for the participants to illuminate her understanding of participants’ perspectives (examples of cameos provided in Appendix S).

**Phase 3 - Analysis of the whole data set**

The researcher commenced analysis of the whole data set by combining the child and parent data sets. She joined label trees as she considered themes and sub-themes. At this point, sub-themes and themes were written on multi-coloured cards because the researcher found NVivo interfered with her ability to review, refine and re-group sub-themes and themes. Being able to hand-sort, arrange and re-arrange the cards into themes and sub-themes in an active manner enabled the researcher to test, and re-test the theme groupings by talking herself through an explanation of the theme and determining it’s congruence with the data before writing about the theme. During the final phase of analysis writing further tested and illuminated the interpretation that was emerging. A metaphor for cross-gen PA bonding became apparent to the researcher when writing during this stage of the analysis and was used to enable further refinement and understanding of cross-gen PA bonding (Figure 4.2).
A Musical Metaphor – The Duet of Cross-Gen PA

The use of musical terms to symbolise the connecting experience of cross-gen PA held resonance for me during my analysis. To me, musical terms hinted at a rhythmical non-verbal conversation between two participants during cross-gen PA.

Two instruments playing together are a duet, but they might not be playing the same melody. One or both may perform a few bars of a solo and then come together again. The duet might be discordant at times but that does not mean there is no cooperation or that they are not aware of or listening to each other. There is more than one way to play together. The players could be in time with each other but discordant, or in tune. They could be playing the same rhythm or counter-point. The duet might not be equal; one player might be the accompanist, thus providing a rhythmic structure and harmonic background for the soloist.

However, when a duet is played, the very fact that it is two playing together conveys a sense of consensus. Likewise, the sharing of PA together even in a contrapuntal or discordant manner intimates underlying cooperation between the participants, and it is that sense of collaboration which can build to an experience of emotional, if not musical or physical, harmony.

Figure 4.2. A metaphor for cross-gen PA.

Initial understanding of a phenomena (a component part) progressed during this phase of analysis as it was informed by other phenomena. For example, the theme of “rewarding” underwent many revisions, as the data revealed that food was sometimes part of the cross-gen PA context and it was not always a reward for cross-gen PA itself. In this way child and parent voices were integrated to review, test and refine a theme and to ensure that a cross-gen PA theme was interpreted from multiple perspectives, and if appropriate using both child and parent voices.

Thus, through the processes of writing, dialogical interactions with the data and reflection, while shifting between macro and micro perspectives including child and parent voices, ideas emerged in the data and were re-confirmed by other parts of the data set, leading to a new understanding and a platform from which to continue. In
this way cross-gen PA themes were developed and a fusion of horizons was reached, with the emergence of a new understanding of cross-gen PA that was “complex, elegant and focused” (Morse et al., 2001). At this point, further interpretation was redundant as saturation had been attained.

**Rigour of the research**

Although some of the ways in which rigour or trustworthiness was maintained during Study Two have already been introduced this chapter, further detail is important. Trustworthiness of a qualitative study is judged according to the following four criteria: credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985).

*Credibility* describes the consistency between the participants’ voices and the researcher’s interpretation and is used to determine whether the research is authentic, reliable and authoritative (Padgett, 2008). The researcher employed a number of strategies to ensure credibility, including triangulation and peer examination. Triangulating data obtained by different methods adds strength to a study and provides a better understanding of the phenomenon (Patton, 2002). In this research, triangulation in the data collection involved ensuring data was collected from a range of different schools (public and independent) and families. This enabled the data from these various sources to be triangulated. Additionally, using multiple methods and sources for data collection enabled the researcher to build on information gained within prior data collection sessions and continue this process until data saturation was reached.

Regular meetings with research supervisors enabled consideration of alternate explanations and enhanced the researcher’s capacity and awareness of her reflexivity (which is critical evaluation of one’s thinking as described by Liamputtong (2013)) by providing opportunities to explain, discuss, defend and challenge interpretations of the data sets. In addition, the researcher shared her early findings at a postgraduate research symposium where she received helpful feedback about the ongoing data analysis. Both the discussion with the research supervisors and peer review added to the rigour and trustworthiness of the study, as they facilitated consideration of the text from alternative perspectives and scrutiny of the researcher’s decision-making and rationale.
Transferability relates to how the theoretical knowledge obtained from the findings may be applied to other individuals, groups or contexts (Padgett, 2008). As previously acknowledged, Study Two was not intended to produce findings that could be generalised to the underlying population from which the study sample was drawn. However, the findings will enable a deep understanding of the phenomenon of cross-gen PA. A rich and thick description of cross-gen PA is incorporated into this thesis, with three chapters devoted to the findings of Study Two and themes and sub-themes supported by child and parent excerpts. In addition, attempts were made to incorporate variation and diversity into the sample of research participants. These strategies enhance transferability and allow understanding gained from research findings to be relevant to a broader context and group of readers (Merriam, 2002).

A research journal was used to provide an audit trail of the processes and decisions made throughout the research journey. In addition, it documented the changes in the understandings of the researcher as the research developed. As such, the research journal provides a dependable documented account of the research. Excerpts of the journal can be found in Appendix K.

By convention, the following section about the researcher’s personal experience of cross-gen PA during the analysis phase is written in first person. At the time of commencing the research, I was the mother of a 12 year old girl and 15 year old boy, with whom I performed cross-gen PA several times per week. Therefore, I took conscious steps to protect my analysis from bias from my continuing experiences of cross-gen PA with my children. This was necessary to minimise the potential for my ongoing cross-gen PA experiences to obscure what was in the data and to ensure that I did not superimpose my experiences onto the experiences of the participants. Confounding my experience with the participants’ experiences could have potentially impacted on the confirmability and trustworthiness of the research. I monitored my decisions and thinking by recording them in my research journal. I checked and re-checked that my interpretation was well grounded in the data. Practically, this meant using abundant excerpts during writing and analysis to ensure that the themes evolved from my interpretation of the participants’ voices and not from my own experiences. I consciously tried to separate my study and my ongoing cross-gen PA experiences with my children by being deliberately mindful during both my study and my personal
cross-gen PA. In other words, I tried not to let my mind wander to my study when performing PA with my children and vice versa. Interestingly, I found this easier when engaged with my study. Perhaps this was because I was playing a different role during analysis: I was a researcher and interpreter, reflecting upon the texts and using quotes to authenticate and check my interpretation. However, this separation was harder to achieve when I was being a mother, as I was gradually gaining new understanding of cross-gen PA, which provided new insights into my own cross-gen PA.

**Reading the findings chapters of Study Two**

It is relatively common in qualitative research to see discussion of previous research literature included in the presentation of findings. However, the findings from Study Two are presented without previous research literature because it is part of a mixed methods program of research and to ensure equity between child and parent voices within the findings. This chapter has presented strategies that the researcher employed to enable the child’s voice to be heard. The child’s voice is absent in much PA research including cross-gen PA (Noonan, Boddy, Fairclough & Knowles, 2016). It was felt that including research literature in the findings would amplify the adult voice (parent and researcher voices) and lead to an inequity between child and adult voices. For these reasons the findings are presented without comparison to the literature. Such comparison is provided in Chapter Eight.

As will be seen, the findings that emerged from the analysis revealed that cross-gen PA was a constantly evolving experience. Its characteristics were not constant or related solely to the context of one particular episode of cross-gen PA. Cross-gen PA was a complex, often recurring, phenomenon. Thus, cross-gen PA had a spiralling nature, importantly occurring as one aspect of a child-parent relationship, inside a family. Reflecting this complexity, the findings explore cross-gen PA across three levels: the family, the PA partnership within a child-parent relationship, and the child and parent as individuals at the heart of cross-gen PA.

As illustrated in Figure 4.3, a findings chapter is devoted to each of the levels. However, the findings should be read with the understanding that this is an artificial separation to aid clarity for the reader. In reality, the researcher found that there was a
blurring and intertwining of these levels. For example, Chapter Seven explores the bonding experience of cross-gen PA which cannot be said to happen purely on an individual level but also occurs at the child-parent relationship level and at times the family level, depending on context.

**Chapter Five: The family’s fabric and cross-generational physical activity**
- The influence of the continuum of enjoyment
- Cross-generational physical activity was founded upon doing things together and being physically active
- Strengthening the family’s bonds
- The family physical activity pecking order
- Finding time
- Other resources

**Chapter Six: A physical activity partnership within a relationship**
- It is everyone’s job to do physical activity
- Instigating and responding to cross-generational physical activity invitations
- Stopping
- Adapting

**Chapter Seven: Two individuals sharing cross-generational physical activity**
- Serving my objectives within our cross-generational physical activity partnership
- I’m practising and I’m experimenting
- Helping me to be a parent
- Building an intense closeness through cross-generational physical activity

*Figure 4.3. Overview of cross-gen PA findings.*

It became apparent that, for an episode of cross-gen PA to occur, certain contextual elements had to come together and these contextual elements are described in Chapters Five and Six, titled, *the family’s fabric and cross-generational physical activity* and *a PA partnership within a relationship*. Cross-gen PA would not begin if those elements described in Chapter Five were absent. The elements in Chapter Five provided the fabric or foundation upon which cross-gen PA evolved. However, those elements would not by themselves result in an episode of cross-gen PA. For cross-gen PA to
occur, someone (either a child or parent) had to instigate it and the other participant had to accept or be persuaded to take part, as described in Chapter Six. That chapter explores control and influence within the cross-gen PA partnership, with a particular focus on the starting and stopping of cross-gen PA episodes, in which power appeared to be a critical factor in engagement. Chapter Seven, titled, *two individuals sharing cross-generational physical activity*, explores the two people at the heart of cross-gen PA: the child and parent. Although cross-gen PA was a shared experience between two or more participants, the experience was unique to each individual participant.

In the following findings chapters (Chapters Five to Seven), ‘child’ and ‘parent’ refers to the participants. Congruent with qualitative approaches, the findings are presented with excerpts from the data to provide the necessary rich and thick description. Each excerpt is identified with a pseudonym for the participant and a description of which data collection method was used in the collection of the excerpt.
CHAPTER FIVE
THE FAMILY’S FABRIC AND CROSS-GENERATIONAL PHYSICAL ACTIVITY

Introduction

Cross-gen PA took place between a child and parent, or as family cross-gen PA (i.e. one or more children undertaking PA with one or more parents). In this chapter a key finding of Study Two is presented. This finding was that cross-gen PA was not an activity that happened in isolation, just between a child and parent (Figure 5.1). Rather, cross-gen PA influenced and was influenced by the participants’ circumstances and relationships. In addition, cross-gen PA influenced and was influenced by the individual PA of all participants and was often compared to other PA contexts, such as PA undertaken alone or with peers. Both family cross-gen PA and the elements within the family context that were required to support cross-gen PA are explored within this chapter (Figure 5.1).

Figure 5.1. The family’s fabric and cross-gen PA.
The chapter begins with an overview of cross-gen PA collaboration and the variety of PA partnerships found within cross-gen PA. The value ascribed to cross-gen PA and the influence of the continuum of enjoyment are also presented. The second section, cross-gen PA was founded upon doing things together and being physically active, explores the background elements within a family that were needed to create the context in which cross-gen PA could occur. The third section, cross-gen PA was used to strengthen the family’s bonds, considers the contexts and ways in which cross-gen PA was valued and used by families as a vehicle for strengthening the family’s bonds and relationships. The family PA pecking order explores the way in which participants used cross-gen PA as a way to benchmark within their family. Finding time, considers time as both a catalyst and an obstacle for cross-gen PA. For example, some participants described cross-gen recreational PA as something that was a strong feature of their family’s fabric during the holidays but less likely to occur during the school term, when individual sporting activities were a feature of their family’s fabric. The last section, other resources, examines the finding that resources other than time were rarely mentioned during the interviews.

Overview of cross-generational physical activity

Cross-gen PA was a shared experience that required some form of child-parent partnership to proceed. The cross-gen PA partnership was found to take on many different forms with examples found throughout the three findings chapters:

- learning and teaching partners – Colin, Parent Interview (page 223),
- practice partners – Suzy, Child Focus Group 2 (page 209),
- training partners – Greg, Parent Interview (page 194),
- working partners – Melanie, Parent Focus Group 2 (page 174),
- playing partners – Daniel, Child Interview (page 221).

The disparity in control and influence in some of the partnerships listed above is obvious. The wide range of cross-gen PA partnerships went from a more transactional approach at one end, to a sense of sharing the cross-gen PA experience on many different levels (e.g. physical, emotional and social) at the other end. In addition, varying levels of control and influence were evident within all aspects of the cross-gen PA partnership. For example, the experience of performing cross-gen PA appeared to
increase the camaraderie and feeling of equality within the cross-gen PA partnership. This aspect is explored further in Chapter Seven. However, this was not the case with starting and stopping an episode of cross-gen PA, in which an imbalance of control and authority became apparent. Both the starting and stopping aspects of cross-gen PA will be explored more fully in Chapter Six, which explores the cross-gen PA partnership in more depth.

Cross-gen PA was more than just a joint venture in PA; it was a complex collaboration between a child and parent, performed on many levels and not solely on the physical level. For example, cross-gen PA was described by some participants as a form of “sharing” and this description encompassed many of the positive experiences of cross-gen PA.

Nell (Child): I don’t think there is a difference between Mums and Dads. It depends on what the activity is, if it’s an activity that interests them and they enjoy it then they want to share it with you.

(Child Focus Group 5)

Sue (Parent): It’s sharing the outdoors, the experience and they have seen me do it and have asked and wanted to give it a go and I’ve been happy to show them. Maybe because they’ve seen how much I enjoy it.

(Davis Family Interview)

Nell’s comments came after a discussion in a child focus group, in which another child was recalling that her mother engaged in more cross-gen PA with her where there were opportunities to talk, whereas her father was more likely to do something with her that involved teaching her things. Nell’s suggestion that interest played a part in parent participation in cross-gen PA was confirmed by some parent participants during the interviews. For example, Sue described her experience of taking her children mountain biking, which she said was a sport that she “loved”. However, cross-gen mountain biking was more than just doing something she loved, Sue valued it because it became a sharing experience with her children. Sue’s excerpt also showed that cross-gen PA could be a partnership involving two or more members of the family. She took all of her three children mountain biking and picked routes that accommodated their range
of abilities. Thus, the cross-gen PA partnerships could also be cross-gen PA family partnerships, involving more than just one child and one parent.

Cross-gen PA was a PA partnership of many varieties and within each child-parent relationship there might be no cross-gen PA or several different types of cross-gen PA partnerships. There was also a sense that cross-gen PA partnerships between a child and parent were not settled, but rather they were ever evolving and changing alongside and as part of the child-parent relationship. Just as habits and routines came and went or evolved into something new, it appeared that similarly cross-gen PA came and went or evolved into something new and this is discussed further in Chapter Six.

Despite the wide variety of cross-gen PA described and the many different types of PA that participants performed as cross-gen PA, two common elements emerged from participants’ descriptions of cross-gen PA: cross-gen PA elicited an affective response and it enabled children and parents to spend time together.

Jody (Child): I do exercise with them [parents] because it’s fun and enjoyable and I like spending time with my family.

(Child Interview)

Jody’s excerpt was typical of many initial descriptions of cross-gen PA by both child and parent participants. The experience of enjoyment was at an individual level and personal to each participant but appeared to affect cross-gen PA partnerships by influencing levels of engagement of the individual participants. Thus, threaded throughout the findings, but introduced here, is evidence of the continuum of enjoyment. However, enjoyment should not be viewed solely from the positive end of the spectrum, as participants described a continuum, ranging from “boring” and “unenjoyable” at one end, to “okay” in the middle, and to “exciting” and “fun” at the other end. The continuum of enjoyment was derived from many different elements of cross-gen PA and thus repeatedly arises throughout the findings chapters because of its relationship and influence over all elements of the cross-gen PA experience.

In addition, time spent together was an influential element threaded throughout all aspects of cross-gen PA (including the element of cross-gen PA being part of a family’s
fabric, which is explored later in this chapter). For example, a feature of the findings from the current research was a child’s enthusiasm for one-on-one time with their same gendered parent, even when this was achieved by performing cross-gen chores (page 235). There was an overwhelming sense from most participants that cross-gen PA was something they enjoyed, something they wanted to do, and something they were happy to spend time doing.

Corey (Child): I go and play soccer with my Dad and I’ve written “I wish I could do it a bit more” because I like spending time with my Dad.

(Child Focus Group 1)

Dean (Parent): I enjoy the release of bike riding and swimming because it’s more fitness, more physically demanding, which is different to when I go and do physical activity with the kids. The greatest pleasure comes just from being able to spend time together and with them all.

(Davis Family Interview)

As can be seen in the previous excerpts, “spending time” was a common phrase. It was used by both children and parents throughout the interviews to describe cross-gen PA. However, this phrase did not adequately encompass all elements of the experience of cross-gen PA. Nevertheless, spending time together was important to both children and parents, as spending time together showed each participant that they were important to the other person and that their relationship was of value to them.

Kate (Researcher): Why do you think parents do physical activity with their children?
Holly (Child): Because they want to.
Harry (Child): Sometimes they want us and them to have healthy hearts.
Abby (Child): They want to be loving to us and care for us.
Rose (Child): They care about our health.
Holly (Child): They want us to be healthy and that’s why they do sport with us.

(Child Focus Group 3)
As the previous excerpt shows, children were aware that their parents wanted them to do PA because of its health benefits. Thus, spending time together in cross-gen PA was also a means by which parents showed that they cared for their children. The time spent with parents in all types of cross-gen PA, but in particular sport, exercise and recreational cross-gen PA, was treasured by children as it indicated to them that they were important to their parents and were being cared for by them.

Parents appeared to be aware of the importance and value that their children gave to cross-gen PA. The following excerpt was from Veronica’s interview; Veronica was a time-poor parent with three children.

Kate (Researcher): Why do you think children want to do PA with their parents?
Veronica (Parent): They like spending time with us. I think they like to get that comfort that Mum and Dad are helping them or spending that little bit of time with them.

(Parant Interview)

Veronica expressed her perception that cross-gen PA was meaningful to her children. Interestingly, although Veronica considered that cross-gen PA was valuable to her children, Veronica herself did not think that cross-gen PA provided anything unique to their child-parent relationship (page 129).

In summary, there was a sense from some participants that cross-gen PA was not only an enjoyable aspect of the child-parent relationship, but that in many ways it was also an integral part of their relationship. This relationship occurred within a family and as such influenced and was influenced by that family’s fabric. Participants described and sought different PA partnerships with different family members. Thus, multiple cross-gen PA partnerships often co-existed within families. Whatever the cross-gen PA context, two values: doing things together and being physically active, entwined to provide the foundation upon which cross-gen PA became part of a child-parent or family relationship. These two values are explored in the following section.
Cross-generational physical activity was founded upon doing things together and being physically active

A child and parent could spend time doing things together in many ways but not all of those activities needed to involve being physically active. However, cross-gen PA appeared to be purposeful and founded on a desire to do things together, even for parents who weren’t particularly active.

Carol (Parent): I personally find that it is easier for them to open up on a walk than if you go to their bedroom and try to chat. You can just see the shutters coming “kerplonk” down. Even with the evening meal when we are told we should all sit down and chat with our children about the day, they are not interested in doing that. They are not designed to sit down and chat about their day. Even when I’ve tried to promote that, it didn’t work. I’ve actually given up on it, we don’t do that, it was just a silent meal. It did not help create threads of communication or whatever it is supposed to do. There’s other ways to do that, chatting whilst walking somewhere or helping me in the house. They seem to be able to talk then and it’s really quite amazing the things that can come up, how they are feeling and the questions that come up.

(Benson Family Interview)

Carol was not regularly active and, as the excerpt shows, she had tried to facilitate communication with her daughters during less active periods, such as discussion during the evening meal and bedroom chats. However, Carol purposefully engaged in cross-gen PA (mostly walking and active chores) with her daughters because she had found that it enhanced communication. She found that doing something physically active with her daughters helped her daughters open up to her in a way that other approaches did not facilitate. This important experience of cross-gen PA aiding communication is examined from a family perspective later in this chapter and from a child-parent relationship perspective in Chapter Seven.

Yet, having a family or child-parent habit of doing things together did not necessarily, on its own, result in cross-gen PA.
Veronica (Parent): We try to do a lot of things together as a family. During the weekend we have lunch and dinner together which is really lovely as you get to know what is happening in their days. The conversations we have whilst walking are similar to the conversations we have at meal times.

(Parent Interview)

At the time of the interview, Veronica was a busy mother of three children (in School Years 1, 5 and 7). Like Carol, Veronica was not regularly active herself and her focus throughout her interview was on her general lack of available time. Cross-gen PA, usually a walk, was a rare occurrence in Veronica’s family. The previous excerpt indicates this might have been because, unlike Carol, Veronica felt that mealtime conversations were meeting her family’s communication requirements and so alternative strategies (such as cross-gen PA, as used by Carol) were less important. Although both Carol and Veronica felt that doing things together with their child was important. Carol had a unique purpose of enhancing communication with her children to being physically active which led her to adopt cross-gen PA as a personal parenting strategy.

Within some families there were high levels of individual sport and exercise activity, high levels of individual PA did not necessarily translate into a context that supported high levels of cross-gen sport and exercise. Furthermore, those parents who were regularly active with their own exercise or sport activity did not necessarily use that type of PA with their child and vice versa. So, although some individuals within a family might have been very physically active as individuals and although they might have been supported by other family members in specific individual PA pursuits that did not always translate into cross-gen PA involving that particular type of PA. Yet, this did not mean that those families did not perform cross-gen PA at all. Some families performed a different type of cross-gen PA, such as active chores, together. For example, Debbie was a mother with a son in Year 6. She was regularly active and would run several mornings a week. Her son, too, was regularly active, playing water polo, cricket and Australian Rules Football (AFL). Although Debbie reported going for occasional bike rides with her son, she was more likely to perform active chores with him or float down the river, rather than share her regular individual PA of running and walking.
Debbie (Parent): I’ve just thought of something that is probably the most important one for us. Every holiday we do the river and we walk down and then we float down. My boy and I do that together. It’s probably the one thing we do together a lot. It’s very holiday-based.

(Parent Focus Group 1)

Debbie had different objectives for cross-gen PA from those of her individual PA. She seemed to use cross-gen PA to bond with her son.

When a family’s fabric, or habits and ways of doing things, entwined doing things together with being physically active, the result was cross-gen PA.

Clare (Parent): But there have been days when I’m thinking what am I doing? I’ve pushed them into it. We’ve got in the car. We’ve loaded up all the bikes, loaded up the trailer. Dragged everyone out. I end up thinking why are we going? Somebody’s fingers got caught in the door and there is mayhem. I’ve even got photos and I look at the photos and I laugh because it looks like we were enjoying ourselves but I can’t actually say that day was enjoyable.

Kate (Researcher): And yet you went and did it again?

Clare: Yeah we did. The kids kind of know that yes at some point we are going to load the bikes, and we are going to go for a ride. We do that, that’s what we do. It becomes a bit of “here we go again”.

Debbie (Parent): It’s something to talk about when they’re in their 30s and 40s.

Clare: It makes memories and that’s what families do. Sometimes it’s a disaster and sometimes somebody falls off and grazes their knee or the rain comes down and whatever.

(Parent Focus Group 1)

In the previous excerpt, Clare, a mother of three children, who was not regularly active herself, described family bike rides that in retrospect were not always an enjoyable experience. But she explained that these were repeated because that was the culture of
her family; it was part of her family’s fabric. Clare’s husband was a keen cyclist and the whole family had bikes and therefore going for bike rides together was what her family did together. Cross-gen PA had become part of the fabric of their family life and as she identified: “it makes memories and that’s what families do” (Parent Focus Group 1).

**Strengthening the family’s bonds**

Cross-gen PA was used to bond family members together as a whole family. Holidays and weekends were times when more family cross-gen PA took place. At these times, there was an element of using cross-gen PA to check-in on each other and to re-establish bonds and connections, leading to a re-grouping of the ‘family pack’. Children, in particular, identified strongly with their families and they hinted that cross-gen PA episodes involving family re-grouping were very important to their senses of belonging. Rosy, who took part in a child focus group, drew her family’s weekend walks/runs around a local park (Figure 5.2).
Rosy did not mind exactly how the cross-gen PA was performed; the most important element of the PA was about being together as a family. Although they might not be side-by-side or always doing exactly the same thing (e.g. some participants are walking and some are running), Rosy’s weekend trip to the park with her family resulted in a bonding and re-grouping of her family for another week.
Similarly to children, family re-grouping was also an important element for parents.

Dean (Parent): I was going to go back to the bush walking and add it is a nice way to unwind. At the end of day we often do a loop around our block. We talk about our days but it’s also just a nice way to appreciate each other. It’s physical activity as well. If you have spent a day where you are in the classroom a lot of the time or behind a desk it is nice to do something physical but also catch up with each other in a fairly relaxed way without the intensity of tennis or mountain biking or something like that where we have to focus on what you are doing more.

Sue (Parent): It is our re-grouping time.

(Davis Family Interview)

Dean took part in a family interview with his wife, Sue, and daughter, Naomi. They lived on a small property out of town. Dean and Sue were both regularly physically active and they encouraged their children in their PA and sporting endeavours. However, Davis Family cross-gen walking, from the parents’ perspectives, was not focused on PA; instead, Dean and Sue were focused on family members enjoying each other as a family and sharing what they had done during their days. Thus, PA was an element of cross-gen walking but it was not their focus. Cross-gen walking was viewed simply as a healthy way in which to share time together, rather than a way of gaining their individual PA requirements.

However, family cross-gen PA was not just about strengthening bonds between participants. Family cross-gen PA was also about everyone in the family pitching in to help and contribute to the family. In the following excerpt, Denise explains why she insisted that her children helped her unpack the car after they arrived home from after-school sport.

Kate (Researcher): What do you think about that experience?

Denise (Parent): It’s not exactly quality time but I’ve got a bit of a rule about helping out. It’s part of being a family. We’ve all been away doing this. It’s your activity we’ve been doing, it’s your bag or it’s our groceries
so we’ve all got to contribute. It’s your responsibility. It’s a family task that has to be done and everyone needs to join in.

(Parent Focus Group 2)

Although no-one in Denise’s family enjoyed unpacking the car, everyone was expected to help and share the task together. Thus, family cross-gen PA was not only about doing enjoyable activities together; it was also about sharing and dividing up the less enjoyable family chores because this was part of one’s responsibility to the family and it also appeared to strengthen the family ‘team’.

Verbal communication was not essential for the experience of bonding in cross-gen PA. This finding is explored later in Chapter Seven. Nonetheless, verbal communication was an important part of family cross-gen PA for many participants. Three features of conversation occurring during cross-gen PA emerged from the data: the amount and type of conversation and the context.

The amount and type of conversation that took place was noticed to vary between types of cross-gen PA, with less opportunity to talk when participants had to concentrate more on the PA (e.g. playing a game) and vice versa. For example, Liam (Child, Child Interview) said, “We don’t talk much when we play cricket because we’re concentrating on the game.” Liam, who was in Year 5 at the time of the interview, was very keen on playing cricket with his father and younger brother. When Liam played cricket with his father and brother his focus was on the game and it was likely that any talking that did take place was about the game. Margo, a single mother of two daughters, similarly described experiences of not talking during cross-gen PA that required concentration but talking during other types of cross-gen PA.

Margo (Parent): I suppose we always talk a lot when we’re walking. How’s their day been and stuff like that.
Kate (Researcher): Is there a difference between walking and other activities?
Margo: There is because when you’re playing cricket you’re concentrating, the only talking is about the game.

(Croft Family Interview)
Although Margo suggested that talking during a game was confined to commentary about the game, it appeared that participants were still strengthening their bonds with their PA partners by sharing and discussing the same experience. Their experiences appeared to be similar to those of participants who found that working towards a common goal created an atmosphere of cooperation and consensus, which in turn led to a feeling of togetherness. This finding is explored further in Chapter Seven.

Examples of connecting as a family through conversations generated during cross-gen PA were provided by participants for a variety of cross-gen PA contexts. For example, side-by-side, face-to-face, inside the family home and outside. Family cross-gen PA was identified as different to more sedentary activities in similar contexts, as parents found conversations easier to generate with their children during cross-gen PA. For example, Carol, a parent, noted that it was easier to speak to her children while they were doing activities such as walking or cleaning the house. Alan, her husband agreed that it was easier to speak to the children during PA rather than when sedentary.

Alan (Parent): I think this idea, this warm and fuzzy idea of the families that sit down to have a meal and have an in-depth discussion is a myth! It’s certainly not my experience. It’s like being interrogated for the kids. The only difference is they are trying to eat at the same time. They are trying to eat everything on their plate before it gets cold so it’s really quite a ridiculous thing to try and get them to do. We try to do the talking at different times like Carol said and I think the kids don’t feel as though they are being interrogated as much.

(Benson Family Interview)

It can be seen from the excerpt that cross-gen PA was more than just the time spent together for the Benson family; there was something about cross-gen PA that aided communication between the child and parent.

The obvious difference when comparing cross-gen walking to eating together, as discussed by Carol and Alan, was the context of the communication. At a table, eye contact is more likely to be directed to the other person than if two people are walking side-by-side. For parents, even though the focus may be on the participant when
walking, it is in a less direct manner; it is less confrontational, less interrogative. This could apply to other types of PA too. In the following excerpt, Debbie, a mother of a son in Year 6, described emptying the dishwasher with her son.

Debbie (Parent): It’s also where you get that incidental chat or they’ll tell you something, especially with boys. If you ask them when you’re loading the dishwasher together, they’ll say something and you just think well I was not going to get that in a more direct manner.
Kate (Researcher): Why is that?
Clare (Parent): They like to convince themselves that they are not really looking for input. They like just trying to keep it as low key, like I’m pretty cool, I’m pretty sorted.
Debbie (Parent): Boys are in the moment when they’re doing something too. They’re much more inclined when they’re doing something with you to share something with you than if you’re sitting at the table saying so how’s your day?

(Parent Focus Group 1)

Emptying the dishwasher together was a shared physical experience for Debbie and her son which promoted communication. Debbie’s use of the word “share” was striking, as it suggested that both participants were contributing equally to the exchange. A conversation was therefore taking place which was not like the interrogation at meal times described by Alan. Therefore it appeared as though cross-gen PA had the potential to create a more neutral environment which shifted participants’ roles from learning (for children) and teaching or interrogating (for parents), to sharing.

In this section, the ways that cross-gen PA was used to build closeness within families that was more intense than the closeness achieved through other, more sedentary, activities has been explored. Examples of participants using cross-gen PA to strengthen their family relationships have been provided. However, these were not the only elements of cross-gen PA that related to the family level. Cross-gen PA provided opportunities to determine where one stood in the family PA pecking order.
The family physical activity pecking order

Most children and some of the active parents informed the researcher during the interviews of where they were positioned physically in comparison to their parent or child, or within their whole family. This was not a question asked by the researcher but rather information that was volunteered within the descriptions of cross-gen PA provided by participants. Cross-gen PA for some participants was the PA equivalent of measuring heights of the family members and monitoring growth on a wall chart. Liam, in the following excerpt, describes playing with his father alongside his brother, Angus, in their yard.

Liam (Child): We just practise kicking in the yard. Sometimes we’ll have a marking contest just to muck around though. Dad kicks the footy and we both go up for a mark. I’m a bit taller. I like it. It’s having fun, and it’s good. Sometimes I just have a kick with my Dad alone. When we’re playing without Angus we can’t have a marking contest because we’ve only got two players. I like it because it’s against Angus and I like beating him! But it doesn’t really matter. Sometimes Angus will kick the footy for Dad and I, that’s different because Dad’s so much taller, he wins. I like having the competition, I don’t mind losing to Dad. If I get a run up sometimes I’m close. Dad used to go easy on me when I was smaller and he does to Angus. He knows he can’t go easy on me because I’m getting bigger and better. I like it being a bit harder, I wouldn’t want him to go easy on me now, I like the challenge.

(Child Interview)

Liam’s description of practising Australian Football (AFL) with his father and brother highlighted a number of elements of the cross-gen PA experience. They practised their football skills and competed against each other, with “marking contests”. Although Liam stated that winning or losing did not “really matter” and he did not “mind losing to Dad”, there was a sense that he was monitoring his progress and ability; he was keeping track of how he measured up against his Dad (and brother).

There was a sense from the children of an underlying inevitability that they were about to, or had already, overtaken their parents in either skill or speed for some types of PA.
Ginny (Child): I find it motivating because I try to get further away from my mum or to catch up a bit to my brother or something like that.

(Child Focus Group 2)

Ginny described running intervals with her family, parents and older brother, where she was essentially competing against herself and her own previous times. All her family ran intervals using their own stop watches. Ginny was already faster than her mother at interval running; but, it was this aspect, trying to get further away from her mother (and trying to catch up to her brother), which appeared to motivate her when she recalled her experience, rather than her interval times. She gained motivation by using both her mother and brother as benchmarks from which to monitor her progress. In addition, children had a clear idea of what was needed to gain physical superiority over their parent. In the following excerpt Daniel did not have to think hard to respond to a question about this he was able to answer the question immediately.

Daniel (Child): I do enjoy it when they win as well because then me and Dad wrestle. I’m never going to try wrestling Dad again because he always wins at wrestling. It is fun so I probably will wrestle him again but I’ve never ever won, never ever. One day he will be surprised because I will win.

Kate (Researcher): What do you think it will take for you to beat him at wrestling?

Daniel: For him to get really old and me get really strong. I’m still growing and he’s not!

(Child Interview)

Daniel knew exactly what it would take for him to beat his father at wrestling. It was highly anticipated and only a matter of time and his growth alongside his father’s ageing! There was a sense of inevitability from many of the children that they would overtake their parents eventually.

Liam (Child): I can probably run and swim as fast as Mum but she’s got a bigger bike with more gears so she can ride quicker. One day, say when I have kids, it will be the same for me.

(Child Interview)
Liam knew how he measured up against his mother at running, swimming and biking. He showed insight into what would eventually be his fate too. This element of cross-gen PA may have been reflective of the age of the children, as some children were already faster or more skilful at certain sporting activities than their parents, or were on the cusp of becoming so and were eagerly monitoring and anticipating the event.

Parents were aware that their children were benchmarking against them (and others).

Colin (Parent): I know Cory views it in a competitive way. He’s changed a heck of a lot in the last 12 months. He does compare himself to everybody else, trying to find out where they fit and what their status is. He does tend to take it pretty seriously and I find it pretty funny as he hasn’t quite got the reach that I’ve got. I don’t laugh at him because at that age they don’t appreciate ridicule.

(Parent Interview)

Colin suggested that the benchmarking was in part due to the developmental stage his son had reached. Benchmarking was a new aspect of playing with his son. However, children were not the only ones checking where they were positioned in the PA pecking order; parents were also monitoring their child’s progress.

Denise (Parent): I wouldn’t want them to beat me at swimming! I know where they are in the lane beside me and I won’t let them get past me! I keep an eye out for them in the things that matter to me. There’s probably nothing else apart from the swimming. Well I’ve given up. I wouldn’t have cared with running because it’s not my main thing. It’s quite funny now I think about it what I just said. I hadn’t considered it but yes I do mind if they beat me at swimming.

(Parent Focus Group 2)
Denise divulged that she kept an eye on where her daughters were in the lane beside her when she was swimming with them. Similarly to the child participants, Denise was covertly monitoring her children’s progress in swimming. Participant’s descriptions of measuring up against the PA partners within their family also highlighted that participants’ physical capacities were not always equal and so performing a PA together required adaptation. Adapting is explored further in Chapter Six. Furthermore, the PA pecking order illustrated that there was an evolving nature to cross-gen PA. The evolving, ever-changing nature of cross-gen PA was also evident in the time participants reported was available for cross-gen PA.

Finding time

As will be explored in this section, time was both a catalyst for and an obstacle to cross-gen PA. There was a cycle across the year in the time available for cross-gen PA. All participants identified holidays as a period of the year when cross-gen PA became more likely to occur. In addition, holidays were a period when a family’s focus was on doing activities together. For some families, cross-gen PA, particularly as part of whole family PA, was considered an important focus of the time spent together.

Julie (Parent): I would prefer one child or the other unless we’re on holiday mode walking in which case it is more about what you are going to see and enjoying the experience together. It’s a whole different experience. Holiday exercise is easy because it is an unwritten contract that we’ll be doing it together; however other times are up for negotiation.

(Aitkin Family Interview)

Walking together was a relatively new pastime for Julie and Pete (Year 5) to engage in together. Pete had a brother who was three years younger than him, and both Julie and Pete were keen to leave him behind but for different reasons. For Pete, the lack of competition in conversation was the main aspect that he liked about walking alone with his mother. Julie also mentioned the difficulty umpiring the competition in conversation. However, her focus related to liking the pace that Pete walked at, preferring to leave her younger, slower son behind. However, holiday cross-gen walking took on a different purpose and subsequently a different approach. Holiday walking was an accepted time for whole family cross-gen PA. Therefore, time was
taken to walk at the pace of the slowest participant, as there was no necessity to speed through the experience and there was a sense that there were other distractions that could override the irritation of a slower pace.

The increased availability of time during the holiday periods was a factor in cross-gen PA for many participants, but time was not the only element identified.

Melanie (Parent): There’s no work pressure, you’re not as tired. You’re not trying to get them to school or get this or that done. There’s no plans, you get up and ask the kids what they want to do. The pressure’s off, the experience is so much more fun. You reconnect with each other. I think that is what a holiday is for, for the family to reconnect, go back to basics. We get so caught up with everything else in our lives that we forget about each other, everybody does it.

Denise (Parent): At home, I simply feel surrounded by maintenance, piles of washing, ironing and dishes. We eat good food, we don’t eat take away. When we go on holiday we eat whatever and you just don’t have to do the shopping and everything else that takes you away from them. I’m so much more relaxed on holiday and it does not even have to be a holiday it just has to be away from home. The moment we drive in the front gate my stress level goes up and I know I start issuing orders and organising.

(Parent Focus Group 2)

Melanie, a single mother of two children, and Denise, a mother of four children, both identified a range of concerns, including time, that were less problematic during holidays.

Other parents enjoyed holiday periods because in those periods they experienced: no work pressure, reduced fatigue, no school or after school activities and less duties to perform, and so they were more relaxed, and less stressed. The reduction in pressure on parents had also been noticed by children.
Eve (Child): When we are on holiday, they are more like us. They are more relaxed and enjoying it more.

(Child Focus Group 5)

The strain of keeping up with the school-term timetable was lifted and this allowed parents to indulge in more time with their children.

Many after-school sports took place over weekends during the term time, and it is likely that this was a reason why some participants tended not to consider term-time weekends as an opportune time for cross-gen PA. However, for those participants not involved in sporting activities, cross-gen PA was more likely to occur at the weekend than on a weekday, and it was more likely to happen during holiday periods.

Rosy (Child): We don’t do it [cross-gen PA] during the week because my parents work. We do it at the weekend and in the holidays sometimes. We get to talk about stuff and spend time together, it’s fun.

(Child Focus Group 4)

Rosy was describing her family’s walk and jog around a local park at weekends (Figure 5.2). One of the aspects of her family’s walks that she liked was that it was “just us four” (referring to herself, her parents and sister).

Lack of time for cross-gen PA was attributed to multiple different reasons that were unique to each family’s fabric.

Margo (Parent): I’d say a lot of it’s time. They get pretty busy with everything, school and friends. It’s a lot easier in the summer because the days are longer and I want to be outside.

(Parent Interview)

Margo, a single mother of two daughters, mentioned two different aspects of time: a shortage of time due to her daughters’ activities, and changes in the amount of time available with changes in the seasons. Fitting cross-gen PA in amongst multiple other competing priorities was an often mentioned challenge to cross-gen PA. Although
children appeared to be focused on the impact of their parent’s activities and duties on cross-gen PA, parents highlighted the influence of both their own activities and their child’s activities.

Lisa (Child): My parents have too much work to do much with me.
Holly (Child): Sometimes my parents are too tired to do anything.
Harry (Child): It depends on how the weather is and if my parents are up to it. Sometimes they just want to sit down and relax and then we don’t go.

(Child Focus Group 3)

The previous excerpt from a child focus group, revealed some of the reasons parents had given their children for not taking part in cross-gen PA.

Parents acknowledged the need to do their other activities, such as work before they could attend to cross-gen PA. Work obligations were particularly pressing for parents who performed shift work.

Carol (Parent): I think time and also what else is going on. If I’m going to work at 1 pm then you have to go in the morning but it’s the length of time to get ready and organised and therefore sometimes it doesn’t happen. Or they are waiting for me to get home at 4 o’clock and then it’s 5 o’clock and I’m not back. There’s been an emergency come in and you have to sort that out. So I think work does put a constriction on it quite significantly because we don’t have a set 9-5 pattern.

(Benson Family Interview)

Carol was a shift worker, and found it hard to fit in cross-gen PA around her work timetable. However, she does highlight, as did many parents, that time was not the only factor influencing whether cross-gen PA would occur during the term time or working week.

Clare (Parent): There is a different mindset on holidays. My work is quite physical. I’m nursing and there are some days that I feel that all I’ve done is walk. So in my head I’ve done physical activity all day long. I really
don’t want to do more. There are times that I could say yes and I don’t. I just think that it’s me, that I’m not inclined to be physical. They could probably keep going a lot longer than I would keep going and I would be thinking I’ve had enough now.

(Parent Focus Group 1)

As illustrated by the previous excerpts describing Carol’s and Clare’s experiences, there could be multiple reasons why parents chose not to perform cross-gen PA, including time.

In addition, it was common for participants to cite the multitude of activities that children engaged in as a barrier to performing cross-gen PA.

Nicole (Parent): I’d like to do more with my children; I just don’t get the time. It’s as simple as that. I do feel like I often don’t do enough with them other than taking them to and from different activities.

(Parent Interview)

Nicole was a regularly active parent and she voiced a common experience amongst parents: child organised sport and after-school activities took up a lot of time, which was time that might otherwise have been available for cross-gen PA.

Greg (Parent): What they have done at school, you might have plans to do something with them after school but they’ve had a really active time at school and ran around during play time and they come home completely exhausted.

(Parent Interview)

Greg was regularly active and considered that time was available for cross-gen PA during term time, but he found he had to vary his plans based on what his children had already done at school that day and their level of fatigue.

During the Benson Family interview, there was family tension about their daughter’s squad swimming. Carol (Parent) had insisted that Anne (their daughter in Year 6) arise early during her holidays, to attend squad training. Carol felt this would help Anne
acclimatise for swimming squad before the start of the school term. Anne was not happy about arising early, as she thought that she should be allowed to lie-in during the holidays and read in bed. In the following excerpt Anne’s parents discussed their daughter’s organised sport. This exchange highlights many of the dilemmas and challenges faced by parents and the impact that organised sport and exercise can have on their decision-making related to cross-gen PA.

Carol (Parent): I know there are things on the list which we have instigated because of our own belief structure, like with the swimming. I wanted them to have a skill that they could use later on in their lives. Their days are busy but they have chosen those things as I didn’t want to have kids that were sitting around at home and falling into patterns of computer games or TVs. I wanted them to be busy. There are complaints that I make them get up early in the holidays to get them into squad. I’m then okay if they do sit down in the afternoon. I then feel I don’t need to get them up and moving, as they have just done 4 km swimming in the early morning. They have had some exercise in their day so that’s the pay-off, whether they realise that or not.

Alan (Parent): That’s where I differ because I do feel we have contracted out our family time to others to do that for us but I do acknowledge that our lifestyles are such that there probably needs to be a component of that. At the same time we do take them to those places and stay with them. To some extent it wouldn’t worry me if they didn’t do squad but just to take on lap swimming for their own health and fitness. I’m not sure that they could do that though at their age.

Carol: It’s much easier I think for them to have a coach yelling at them to do 20 times 25 metres.

Alan: It’s the external motivation there.

Carol: Yeah, but if I told her to do that she would not do it to the degree that she can do it. I think she needs to be challenged so that she can know where her limit is and that changes as she grows. I’m not a strong swimmer so I couldn’t challenge her.

Alan: I could but I don’t get the time to do that. They do need to be pushed and challenged and the other thing is they are part of a team and that’s good
experience. I feel therefore that the times you do get together are important because most of the time their time is being contracted out to other people and that makes these sorts of things even more special when they occur. The kids think we’re being annoying and trying to embarrass them and we’re not. We’re trying desperately to have some time with them, as they won’t be with us forever.

(Benson Family Interview)

Carol appeared to be more comfortable with the impact of their children’s squad swimming training on cross-gen PA than her husband. This was perhaps because she felt that squad swimming was providing her daughter with the challenges and motivations that she felt she could not provide herself through cross-gen PA.

Other parents described taking a different approach to that described by Carol.

Greg (Parent): Activities can get in the way, they can do too much and it’s hard to find the time to do something with them. We’ve had to drop some things at times or do piece-meal. Rather than running twice a week like her brother she runs once a week and we play tennis when her brother is doing that other running session. You have to not go into full coaching too intensively because it does take up the time that you have for doing other things. They need to get the opportunity to practise in a different environment.

(Parent Interview)

In many ways, Greg’s experience of his child’s organised school sport and activities mirrored the experiences of Carol and Alan. For example, Greg had also found that his children’s after school sport reduced the time available to perform cross-gen PA with them. However, Greg felt that he could offer his children something different to their coaches when performing cross-gen PA with them. He appeared to value the time spent in cross-gen PA as much as coaching because he felt that it gave his children the opportunity to practise in a different context. Greg was a regularly active father, who himself had played sport to a high level. It is possible that Greg’s knowledge and
experience allowed him to help his children in ways that a parent with less sports knowledge, such as Carol, could not.

Both the Benson’s and Greg’s approaches to their child’s PA took a considerable time investment by the parents. The Bensons stayed at the swimming squad training to watch their daughters swim. In the warmer months, Carol advised that she swam laps in the lane beside her daughter’s squad session. Therefore, although time spent in organised sport was considered to be an obstacle to cross-gen PA, in many cases this time was already sequestered time for PA. This suggests that some of the impact of organised sport on cross-gen PA was not about time availability but rather it was about parents’ beliefs about the relative benefits of organised sport and cross-gen PA.

Not all parents found that organised sport impinged on time available for cross-gen PA.

Margo (Parent): There’s not much difference, the game is only for an hour and they have hockey training once a week for an hour. The majority of the season is in the winter months so I suppose it doesn’t really impact on what we do together because it’s really cold. I don’t like doing things outside in winter.

(Croft Family Interview)

Margo was a single mother of two daughters. Her youngest daughter, Keira, was in Year 5 at the time of the interview. Most of the cross-gen PA that Margo performed with her daughter was outdoor-based and Margo admitted that she avoided outdoor PA in winter. Therefore, her daughter’s hockey (a winter sport) did not impact on the time that they might have spent performing cross-gen PA.

Although some of the issues about time as a catalyst and an obstacle for cross-gen PA have been highlighted, it is interesting to note that many of the time factors emphasised by participants were far more complex than merely the time they could allocate to cross-gen PA. Participants’ other activities, their choices and their individual preferences all appeared to contribute to and influence how they viewed the time available for cross-gen PA.
Participants also described that the seasons, with accompanying weather and temperature, could influence their engagement in cross-gen PA, especially for sport and exercise types of cross-gen PA. Extremes of temperature were the main barrier to cross-gen PA for many participants. Winter, with the accompanying cold and rain, dampened some participants’ enthusiasm for outdoor activities. For example, Kira (Child) said, “In the winter its cold and I don’t like to be outside” (Croft Family Interview). Similarly, Clare (Parent) reported, “I’m not a cold weather person. If it’s raining, I’m not walking. If it’s cold, I’m not walking” (Parent Focus Group 1).

Both children and parents reduced their outdoor activities during winter and likewise, summer also affected cross-gen outdoor PA. For example, Abi (Child) said, “I don’t like gardening if the sun is too hot” (Child Focus Group 3). Julie (Parent) thought similarly.

Julie (Parent): It does for me because I really dislike being hot. I get sunburnt very quickly and I get very hot very quickly and not inclined to do things that make me hot.

(Aitkin Family Interview)

Summer, with its accompanying hot weather and burning sun, affected participation in outdoor cross-gen PA for both children and parents. Thus engagement in cross-gen sport, exercise and recreation was often seasonal, with families performing more of certain types of cross-gen PA at different times of the year.

Other resources

It was noticeable throughout the interviews, that resources other than time were rarely mentioned by participants as influential in their engagement in cross-gen PA. This might be because not all types of cross-gen PA were reliant on access to other resources. For example, cross-gen active chores, active transport and walking rarely required particular resources (such as equipment) for people to be able to perform them; only time was needed. However, the data did hint at the impact a family’s financial circumstances may have on cross-gen PA.
Hugo (Parent): In some ways we’re achieving an active lifestyle for the kids but in other ways I think we could do more. Some of it is more often and some of that could be down to financial because even though we love swimming it isn’t a cheap thing to do these days. Now I’ve finished my study, I'm on a reasonable wage. We can afford to go more often. But for us as a family to go for a day to a swimming pool, entry is around $15- $16 and then we buy food. And before you know it it’s gone up to quite a bit and you just can’t do that every day. Whereas, when I grew up I think a family pass for the whole season to the town swimming pool was $25. Cost plays a huge part in sport. So quite often we will find areas where we can swim for free like out at the lake or that sort of thing. It doesn’t cost us, only the petrol to get there and back. Paying for sport makes a huge dent in our ability to do what we would like to do.

(Parent Interview)

This excerpt showed that alternatives to a cross-gen PA context that required considerable financial outlay could be found. In other words, in Hugo’s experience, financial resources did not impact on cross-gen PA itself but rather only on where cross-gen PA was performed. Hugo was the father of three daughters, and during his interview he explained how swimming was the one PA that they tended to do altogether as a family.

In this chapter the contribution of a family’s fabric to the context that supports or does not support cross-gen PA has been explored. Cross-gen PA was used within families, particularly during holiday periods, to strengthen family bonds and benchmark between participants. The next chapter will elaborate further on the cross-gen PA partnership between a child and parent.
CHAPTER SIX
A PHYSICAL ACTIVITY PARTNERSHIP WITHIN A RELATIONSHIP

Introduction

In this chapter the discussion will move from the broader setting of cross-gen PA within a family, to examine more closely the PA partnership itself and concepts of control and influence within the PA partnership (Figure 6.1). Cross-gen PA was a PA partnership that was situated and evolved within a relationship, that is, a child-parent relationship.

Figure 6.1. A physical activity partnership within a child-parent relationship.
Cross-gen PA was subject to reciprocal exchanges between the child and parent (the PA partners), which led to opportunities for control and influence, and to be controlled and influenced. This chapter will explore three themes associated with this. First, *it is everyone’s job to do physical activity*. In this theme, participants’ views of their roles and the roles of their cross-gen PA partners within cross-gen PA are examined. The next theme, *instigating and responding to cross-gen PA invitations*, describes the control and influence that were evident at the starting and stopping of cross-gen episodes. The final theme, *adapting*, examines the finding that participants compared their cross-gen PA experiences to their experiences in other PA contexts. Thus there was awareness of the adaptations, both positive and negative, that were used to accommodate differences between children and parents in the cross-gen PA context. Two types of adapting were identified, *falling into step* and *complex adapting*.

**It is everyone’s job to do physical activity**

In this section, participants’ views about child and parent roles within the cross-gen PA partnerships are explored. No consensus was found. Some participants were clear that it was part of a parent’s role to perform PA with their child, whereas others were not sure that it was part of a parent’s role. When considering their roles, most participants referred to sport and exercise types of cross-gen PA, rather than other types, such as active transport or chores. In addition, a strong sense of self-responsibility for PA was apparent in the child participants. However, there was consensus from both children and parents that children needed PA partners, whether those partners were parents or others, such as siblings or friends.

Parents felt that they should role model healthy lifestyles as a feature of their role in cross-gen PA.

Denise (Parent): I guess I always have a sense of if you’re in there doing it with them, it must be a little bit of encouragement for them, rather than sitting on the side. I sit on the side for some other things and so I think this is one I can get in for. Also there’s an element of I’m setting a good example. I’d like to think that she will be doing this when she’s my age.

(Parent Focus Group 2)
Denise considered encouragement of her children to be an element of cross-gen PA. She felt an obligation to set a good example for her children as she viewed it as part of her job as a parent. Although Denise liked to be active, she considered herself to be an “older” parent and therefore she carefully selected the activities that she performed with her children and how she performed them.

Denise (Parent): We’re older parents and my youngest was born when I was 40 and I think that gave me a degree of awareness as I don’t want to get hurt. I might try and swim a little bit faster but that’s not going to hurt me. But I’m not going to try and keep up with a runner I will just hurt myself. I’m not going to try and keep up with them skiing. I’d have a crash. I’ve always thought when I’ve seen parents do it that I’m too old for that. I handle it very simply. I can’t do that run so I meet them at the bottom of the chair. I can’t jump on the trampoline, it hurts, so I’ll say that really looks like fun but I’ll watch you or I throw a ball and see if I can hit them. My kids are very accepting of me and my limitations. I do a fair number of things. It’s just there are some things I don’t do. I did that Tough Mutter, if you know what that is, last year. I trained for it, it was fun but in a couple of blinks I know that could potentially hurt me. I feel comfortable at setting my limits because I feel that my limits aren’t too low.

(Parent Focus Group 2)

As Denise’s excerpt illustrates, parents chose which types of PA they did with their child and they adapted their performance in those activities for the cross-gen PA context. Although Denise modified her performance in cross-gen PA with her daughter, she nevertheless considered that she was still setting her daughter a good example now and for the future.

Parents considered it important to set a good example about PA for their children’s future health and well-being. They role-modelled good habits and values for their children. Role modelling was linked to their parental teaching role (this aspect is explored further in Chapter Seven).
Denise (Parent): It’s a part of my job. It’s a part of my role to teach them so they value it in their lives.

Melanie (Parent): They need to know from you and what you do that you can’t be a couch potato. They learn how to communicate with other people. It doesn’t matter what it is you are doing with them they are sponges. They learn from you, if you go, “it’s not my job”, they won’t learn and realise that you value it.

Denise: As they get older you have conversations with them because it comes up in their education about how you need to look after your body and that involves physical activity. You can make it fun and there are so many different things that you can do together so it does not have to be a chore and you just incorporate it into your life. I really think that you have to role model that active lifestyle and it should be a part of family life doing things together. It’s not just about role modelling; when I said that thing about fitting into my jeans I wouldn’t actually tell my girls that. I do try never to go that line with my girls. I go down that line with friends but not with them. With them you go down the line of health. So I say let’s go for a run that will be really good for me, I need to do that. Sport and activity is not always about competition, I think they get that message at times at school in their health studies and it needs to be reinforced by us as parents. Doing something non-competitive with them is important, it sends an important message.

Melanie: It is our job to teach our children how to be healthy in the body and in the mind.

Denise: Learning fun skills so that you can participate in fun things with other people and learn how to deal with other people. Physical activity together I think is a really fabulous way to stretch them without being dangerous. On a bushwalk for example this is getting tough but that’s alright because I’ve got a few muesli bars in my pack and we’ll get through it together. There is some preparation but you can actually push them physically and mentally without it being dangerous and I can literally see the resilience that my kids get from that. We’re not extreme or anything but I feel that we push our kids a little bit so that they grow up knowing what they are capable of and so that they can say Yeah, I could probably
give that a go, I could probably do Duke of Ed⁵ [Edinburgh] or whatever it is.

(Parent Focus Group 2)

As illustrated in the previous excerpt, the parents considered that cross-gen PA was an important part of their role for:

• teaching their children to value PA,
• showing their children how to make PA enjoyable,
• showing their children how to incorporate PA into their lives,
• learning enjoyable skills,
• learning how to deal with other people, and
• building their child’s resilience by challenging them in a controlled environment.

Essentially, cross-gen PA supported parenting and was used as a means for parents to help their children gain healthy experiences and habits.

Parents noticed that once they had managed to get their children up and moving with them, their children were then more likely to continue with an active pursuit rather than returning to sedentary activities. The excerpt below shows this.

Nicole (Parent): Children turn into zombies when the TV goes on. I like action and I like them to be active. I use physical activity as a way of getting them outside and then they stay outside and play. They’ll often end up trampolining or playing.

(Parent Interview)

Nicole was physically active herself. As a personal trainer, Nicole liked to train and run marathons. Nicole’s three children were all active and pursued different sporting interests. Like many parents though, she was time poor and therefore she performed limited amounts of cross-gen PA with her children. However, she used cross-gen PA as a way of getting her children outside and then playing actively.

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⁵ The Duke of Edinburgh’s Award is a youth program
Even when cross-gen PA was not fun and it was an effort to get the children outside, parents found that cross-gen PA could still be used to lure children into staying outside and engaging in active pursuits.

Carol (Parent): There are times I’ll drag them out weeding or something when I’m pruning. I like it because it gets them out of the house and we chat and get some sunshine. For them, it’s “I don’t want to do this” so it’s an effort sometimes for me but by getting them out to help me that will lead to other things. They will then go and get their rollerblades on or get the scooter out.

(Benson Family Interview)

Although Carol found that it was not an easy task to get her daughters outside to help with the gardening, she considered it worth the effort, as the children would progress onto other active outdoor games, perhaps if only to escape the chore. Thus far, parents have described the way they used cross-gen PA to role model and encourage PA.

But for some parents, uncertainty emerged about the parent’s role within cross-gen PA. For example, Margo was unsure whether cross-gen PA was a normal part of parenting as she compared herself to what she saw other parents doing.

Margo (Parent): I don’t know. I know some parents don’t do anything like that with their kids but it’s nice to spend time doing stuff like that.

(Croft Family Interview)

Margo’s comments suggest that cross-gen PA was not considered the norm for some parents. This appeared to be the case for less active parents, who did not consider cross-gen PA to be part of their parental role.

Veronica (Parent): I do tend to think it is not my role. She’s got a brother and she’s got a sister. They can play together, they can catch the ball together. They don’t need me to entertain them. They should be able to think of things to do themselves.

(Parent Interview)
Veronica was a time-poor parent of three children who could not see a unique purpose for cross-gen PA. She did not think it was her responsibility to perform cross-gen PA with her children, as she believed they could entertain themselves with active play without her. Yet, her choice of the word “tend” suggests an element of uncertainty in her view. Veronica, like other less active parents, pointed to other people that the child could gain some PA with, most often siblings or friends. This was an interesting finding as it demonstrated that even parents who do not recognise a role for themselves, through cross-gen PA, in their child’s PA still acknowledged the social aspect of PA and the need for children of this age group to have access to PA partners.

More active parents were sure that cross-gen PA was part of the parental role.

Hugo (Parent): It is my job to be physically active with them because I should lead by example. That’s simply it. You’ve got to be fit to have a healthy life. Yes you do have injuries and that’s part of it, showing them how you deal with those, adapt and get over them. If you don’t do physical activity with them, isn’t this the generation that might not outlive their parents? If that isn’t the parents’ responsibility to show them and be active with them then whose responsibility is it? I think me doing physical activity with them shows them, influences them, it has to. I think if I sat down with a bag of chips with them we would all be a big lazy family.

(Parent Interview)

Hugo was the father of three daughters. His wife was not regularly active. Hugo discussed that he found it difficult to motivate “the two bookends”, that is, his oldest and youngest daughters, to be active, when they could see and were given alternative, more sedentary options with their mother.

Kate (Researcher): Does your wife have a different approach to you?

Hugo (Parent): It definitely differs and I would say that is because my wife is not the sporting type. She’s more into art, interior design. She works in a furniture shop and leads a more sedentary lifestyle. She likes talking about getting fit but then she says to me “I wish you had more influence on
them as far as getting them to do more sporting things”. I go, “well, I try to lead by example”. I play golf, and my middle child will walk around the golf course with me.

(Parent Interview)

Hugo’s experience highlights the complexity of cross-gen PA within a family. Cross-gen PA evolved, not in isolation, but from within and as part of a family’s fabric. Hugo’s cross-gen PA with his daughters was shaped by multiple influences and controls, including those outside the immediate cross-gen PA partnership, for example the influence of his wife and her relationship with her daughters.

It was evident that the parents’ ‘PA job description’ changed over time. As will be described below, less active parents considered that their role as a PA partner had ended now their children were older. In contrast, more active parents described a role that was evolving from teacher to practice partner.

Less active parents still considered that they had an ongoing duty as a facilitator of PA for their child, even if they did not currently engage in cross-gen PA with the child.

Clare (Parent): There is a part of me that thinks that’s actually not my job. There is a large part of me that says I must facilitate it absolutely. I must ensure that they know how to have these skills or how to be sportsman like and to have all of that. That’s my job as a parent but to be available to them to do physical activity with them? Part of me actually thinks NO that’s not my job. I’ve given him two siblings and lots of friends. If they want to go and play tennis then really they can take their friends or siblings with them. It’s different when they are little because you’re doing the mothering thing. But now a large part of me does think that that’s not my job. If they were only children, yes, you’d have to do something different but they are not. The boys do that, they do go off and play basketball and they’ll take the cricket bats or the hockey sticks down. They do that and I think that’s what they should be doing. It’s not my job.

(Parent Focus Group 1)
In the previous excerpt Clare discussed feeling that cross-gen PA was part of her responsibility when her children were smaller. However, she described her current role as a facilitator rather than as a participant in her child’s PA. However, she appeared to be uncertain of her opinion. Clare thought that performing PA with her child was someone’s role and that if her child had been an only child, then she might have adopted the role. As this excerpt highlights, some parents felt a sense of responsibility to provide PA partners for their child, even if that was not the parent themselves. This example illustrates the finding that parents perceived that children of this age group ought not to perform PA of the sport and exercise type by themselves.

Greg’s excerpt following highlights a different perspective. Like Clare he believed that his role was changing. In contrast, though, he described a role that was evolving, not ending.

Greg (Parent): Well up to a couple of years ago I think it was almost entirely my role but from now on its more just supporting the other coaching that she gets. It is the role of parents to teach them how to swing a tennis racquet, it’s time consuming and it needs to be one-on-one. The best way to learn racquet sports is initially with a parent unless you’re prepared to spend a lot of money on coaching but it’s not as much fun for the kid. Now that she’s having proper coaching it’s more just supporting and giving her a chance to practice what she’s learning from her coach. I ask her and she tells me what she wants to work on. She directs the session now to some extent. The best person to start most things with is a parent.

(Parent Interview)

Greg was a regularly active father who was very focused on the physical aspects of cross-gen PA. Greg’s role as a teacher to his daughter was evolving into that of a practice and training partner. His daughter’s increased knowledge from her coach had resulted in Greg handing over some control of the practice sessions to his daughter. Greg believed that his daughter may be gaining a different and perhaps even better insight into her tennis practice needs from her coach. Practising was a particular cross-gen PA focus for many child participants and is explored further in Chapter Seven.
There wasn’t a commonly held view amongst children about a parent’s responsibility to do PA with their child. However, their responses revealed that children thought their parents should encourage them in both individual and cross-gen PA.

Tanya (Child): It is a parent’s job to do physical activity with their children because they are not going to do it by themselves. They might sometimes but not always. I do more when I’m with my parents and they are encouraging me.

(Child Focus Group 5)

Tanya, a Year 6 student at the time of the focus groups, felt reliant on her parents to do PA with her and to encourage her in her PA endeavours. As will now be discussed, for some families, rewarding was part of the encouragement children received.

**Rewarding**

Some parents used sweeteners and money or food rewards to influence and encourage children to participate in PA. Use of rewarding provoked strong contrasting opinions from participants. Some participants valued rewarding whereas other participants were strongly against rewarding, particularly food rewards. In some cross-gen PA contexts, child participants were told beforehand what the reward would be and they would not have performed the PA without the promise of the reward.

Kate (Researcher): Why do you do physical activity with your parents?
Naomi (Child): Because it’s fun and if it isn’t fun that there’s a prize if you do it at the end like a lolly or something!
Sue (Parent): An incentive.
Naomi: I prefer swimming around than doing laps and I wouldn’t have swum twelve without the incentive.

(Davis Family Interview)

Although Naomi explained that the sweet reward gave her incentive to swim, she swam further than was required by the terms of the contract she made with her father. Naomi’s father, Dean, commented that all three of his children swam more laps than he had negotiated with them.
Dean (Parent): They well and truly exceeded what they set out to do. Naomi did twelve, Mel did eight and Luke did six laps. So I challenged them but they went beyond what they thought they could do.

(Davis Family Interview)

Dean found rewarding to be an effective parenting tool for engaging his children in PA. It is interesting to compare this approach and the associated cross-gen PA context to the approaches and contexts previously described by parents Nicole (page 154) and Carol (page 155). They used cross-gen PA itself as an incentive to spark further active pursuits and get their children moving; whereas, Dean found that once he had got his children started with promise of a reward, they continued past their agreed goals. Therefore, in both instances, there was a sense that children needed encouragement and motivation to begin but once started they continued without further intervention.

Some child participants reported that they chose to join in with PA that they might not normally do because of the reward. “Mum mostly starts the gardening. I do it when I want to make some money” (Pete, Child, Aitken Family Interview). Carol, Pete’s mother, was a keen gardener, who used gardening as part of her rest and relaxation. She was happy to have Pete’s company in the garden and would find jobs that they could do together and that Pete would be more likely to enjoy, such as digging tasks. Pete was also paid for helping his Mum in the garden. Although there was a transactional aspect to Pete and Carol’s cross-gen gardening, there was also a sense of understanding and tolerance of each other’s perspectives and approaches to gardening together.

Using sweeteners had both benefits and drawbacks. Although it might appear that influence was retained by the parents who persuaded their children to complete PA that they might not have otherwise performed by use of reward, sometimes children turned this situation to their advantage.

Abby (Child): I don’t like gardening if the sun is too hot. If it’s something I don’t want to do and I still help, I get sweets.

(Child Focus Group 3)
Abby appeared to have some control over her situation. If her parents asked her to do something she did not want to do, and she did it, she was paid in sweets. Therefore, the influencer could have the tables turned on them. There was no incentive for Abby to seek intrinsic enjoyment (and Abby did not reveal whether she gained any intrinsic enjoyment) from this type of cross-gen PA, as she was rewarded and paid in sweets for her toils.

Yet, for some children, joining in all categories of cross-gen PA was expected, without sweeteners or expectation of reward. These children did not think that using sweeteners was necessary.

Jody (Child): No. I don’t need it. I know that going for a run is for my benefit, it keeps us fit. Sometimes it’s hard, especially at the start but I feel good after.

(Child Interview)

Jody was a Year 5 student at the time of the interview. Jody appeared to experience internal motivation to exercise and she had the maturity to wait for the reward of feeling “good after” she finished exercising.

Liam (Child): They don’t give rewards for doing stuff with them. They don’t need to; we should be doing it anyway. We should not be getting rewards for things that we should be doing anyway. That does not make sense. Sometimes when we go out to get the paper we will get a chocolate but that’s a bit different really, it’s a drink not a reward. I’d go for a walk with Dad whether I was getting a chocolate or not.

(Child Interview)

Similarly to Jody, Liam demonstrated internal motivation for PA, although he did not talk of it in terms of gaining something, but rather in terms of PA being his responsibility. Liam distinguishes between getting a reward or incentive for doing PA, which he is clear he does not require, and the times that food or drink was part of the non-PA social context of cross-gen PA. Greg, a parent, made similar observations.
Greg (Parent): We do sometimes treat ourselves after doing something. We might go and play tennis and if we’ve got hot go and get a drink or an ice cream. It’s not promised beforehand although sometimes during we might say let’s keep this going for another half an hour and we’ll earn ourselves an ice cream or some sort of drink. We might do. I guess this is a bit of an incentive but I wouldn’t go so far as to say I use it as a complete bribe to do the activity in the first place. Sometimes as a reward for having done a hard session, it’s usually a drink or ice cream, not lollies.

(Parent Interview)

It is clear that even though cross-gen PA sometimes involved food or drink, this was not always as a reward.

Kate (Researcher): Some parents have talked about the use of treats/food?
Margo (Parent): I don’t really use that. I really don’t like using that sort of thing as a treat. I don’t like using chocolates and lollies. Actually, in a way I do; sometimes we will get an ice cream when we’ve biked to the shops. They don’t get an ice cream every time, it is an occasional thing, something a little bit different, so I guess it is a bit of a treat.

(Croft Family Interview)

Similarly to Greg, for Margo, an ice cream at the shops before biking home was an occasional occurrence. It was not used as a sweetener, in order to get the child to perform the task, but rather it was occasionally just part of the trip. Therefore, for some participants, food appeared to be more a part of the cross-gen PA context, perhaps as part of the social context of cross-gen PA, but it was not really a sweetener or reward with the intent to influence, bribe or pay the participant.

In conclusion, there appeared to be some consensus amongst participants that children having PA partners was important, but no consensus on the parental role within the cross-gen PA partnership. A participant’s beliefs regarding his or her role appeared to shape the value given to cross-gen PA within the child-parent relationship and subsequently the control and influence around cross-gen PA. Therefore, influencing was a phenomenon that was apparent throughout cross-gen PA, from before it began
until it stopped. However, *starting* and *stopping* were both moments when control and influence were particularly prominent. The experiences of starting and stopping were distinctive due to their practical characteristics and the subsequent impact these had on the balance of power within the cross-gen PA relationship. Although starting an episode of cross-gen PA necessitated agreement from both participants, the decision to stop could be made unilaterally. *Starting* and *stopping* of cross-gen PA are explored separately in the following two sections.

**Instigating cross-generational physical activity and responding to cross-generational physical activity invitations**

The starting of an episode of cross-gen PA required instigation by a participant and consent from the other participant, or for that other participant to be persuaded or compelled to take part. The exception to this was when a participant joined in a PA that another participant was already performing. This section explores the initiation process of cross-gen PA episodes. First, planned and spontaneous cross-gen PA are considered. Next, the child’s approach and the parent’s approach to instigating cross-gen PA are explored separately. Lastly, the response to an invitation to engage in cross-gen PA is explored.

An episode of cross-gen PA was instigated either as a planned pursuit or an opportunistic activity. Both types of instigation sometimes could incorporate elements of child and parent (or family) routines. In the following excerpt, Colin, the father of a son in Year 6 at the time of the interview, described going to the local park to play basketball.

Colin (Parent): Sometimes it’s him and sometimes I’m aware that it’s been a few weeks and I’ll suggest. Sometimes he’ll resist because he doesn’t feel like it or he wants to be on the computer. But usually once we’re out the door, it’s fine. We have a bit of banter and he trash talks me all the way down there and then the competition is on. He’s a character. It’s competitive, and then when he wants to go home, I say you’ve got to score ten before we go home. If we have not been down there long enough for
him to have had enough exercise I’ll make it hard for him. If it’s a hot day
I’ll make it pretty easy.

(Parent Interview)

In common with many parents, Colin reported that he was not always the person who
instigated cross-gen PA. Colin’s son also occasionally instigated basketball sessions.
Colin’s example illustrates how routines became established in cross-gen PA. Colin
and his son had repeated the activity of cross-gen basketball so many times that there
was a sense that no matter who instigated it, both participants knew what was coming:
the routine of basketball playing had become part of their family’s fabric.

Parents instigated cross-gen PA as a response to their perception that their child had
been engaged for too long in a sedentary pursuit.

Greg (Parent): I initiate it if I think she needs to move about a bit. She loves
reading. If she’s being too lethargic at home and not doing anything that’s
when I say, “right let’s go and play.”

(Parent Interview)

Greg prompted a game to change his daughter’s lethargy into action. Similar to Colin
and his son, both Greg and his daughter instigated games. However, children and
parents instigated spontaneous cross-gen PA for contrasting purposes. Children
usually instigated spontaneous cross-gen PA mostly for “fun” and “spending time”
with their parents. Parents were found to sometimes instigate spontaneous cross-gen
PA to change their child’s level of activity when they thought their child was being
inactive, such as when reading or playing computer games for long periods.

Children did not express a preference between spontaneous or planned cross-gen PA
but some parents appeared to have a preference. Some parents preferred spontaneous
cross-gen PA because they found it more relaxing, as it required less organisation.

Dean (Parent): The ad hoc is probably more relaxed, less regimented
simply because with the planned activity you need to plan how you get
there, when you’re doing it. It becomes a bit more of a task in a way, whereas the ad hoc can often be a bit more relaxed.

(Davis Family Interview)

In contrast to Dean’s experience, other parents found that for them, planned cross-gen PA was easier to engage in.

Melanie (Parent): When they plan something there’s that little bit of anticipation and you know it’s going to happen. They get excited and they’ll tell their friends, talk about it, there is a build up to it. Whereas, when we just start doing it, we don’t do it for very long if that makes sense. It does not last as long. If we’ve planned it, we’ve set that time aside and therefore it’s something you do. Whereas, if it has not been planned I think sometimes I haven’t got my head into that space and find it hard to switch off from other things.

(Parent Focus Group 2)

Melanie’s experience was unusual as she was the only parent who described her children (Years 5 and 7) planning the cross-gen PA. No children mentioned that they planned cross-gen PA themselves. Melanie found planned cross-gen PA was easier to become engaged in as the planning prepared her for the cross-gen PA episode. Melanie’s children engaged in the planning process and it appeared as though both Melanie and her children gained pleasure from anticipation of the PA as well as the PA itself. Planning and negotiating the event together may have been a factor that took the pressure off Melanie and helped prime Melanie for greater engagement in the PA. Thus, depending on the context and the parent, both spontaneous and planned cross-gen PA could be a relaxing and fulfilling experience for the parent.

For some parents, planned episodes of cross-gen PA were more likely during the holidays than during the term time.

Clare (Parent): I certainly don’t have anything planned with my 12 year old. I’d say it’s probably ad hoc. He does a couple of practices a week, a
couple of games a week and so by the time he does that he doesn’t need to do more.
Debbie (Parent): Yeah I agree.
Kate (Researcher): So let’s take you into holiday time?
Debbie: Yeah that’s different
Kate (Researcher): How?
Debbie: It will be more planned, which big ride we will do this holidays?
Clare: That’s when I do tend to think about it; if the weather’s good I’ll try and get them out for a ride. But in the term time [it’s] much more ad hoc depending on who’s home, what they’ve done. If it’s a lovely sunny day I might say let’s try and do something and they are usually quite open to that, but not during the term time because they are doing too much. They’d say to me but I’ve just spent an hour practicing and I’m not going to push that, they’ve had enough exercise this week. I’m not sporty, I’m really not fit and I’m always trying to push myself into doing more. It’s hard enough getting me motivated.
Kate (Researcher): But we are thinking about more than just sport.
Clare: I don’t plan that either.

(Parent Focus Group 1)

Clare and Debbie’s reasons for not planning cross-gen PA with their sons during the term time did not relate to personal preferences for spontaneity but rather it was consistent with their belief that their sons were already performing enough PA through after-school sport. Therefore, both Clare and Debbie felt there was no need for further PA. Fitting cross-gen PA into a child’s already busy schedule of organised sport and after school activities has already been examined as a factor that could impact engagement in cross-gen PA. However, this excerpt adds further to the discussion, as Clare and Debbie’s focus was not on lack of time but rather on the quantity of PA the children were already performing. Clare was one of the least active parents and found that her struggle with self-motivation left her with little capacity to motivate her children. In contrast, Debbie was regularly physically active, walking or biking most early mornings with a group of friends. Therefore, the amount of PA a child was already performing was an aspect of concern for some parents, regardless of their own individual PA levels.
Some parents never planned cross-gen PA and it was always a spontaneous PA or one that was fitted in if time became available.

Veronica (Parent): We all enjoy our time together and make the most of it. It’s different; you’re go, go, go, compared to having time. It’s a lot more relaxed, less time pressures. Weekends and school holidays are much easier to get more done.

Kate (Researcher): Do you plan what you do during that time or not?
Veronica: Yes I do plan because that’s what I have to do. It’s easier, it’s up on the board what happens, when it happens. And that way everybody is kept in the loop and everyone knows what’s going to happen for that week. The family walk doesn’t tend to get planned. It depends when my husband and I are both free. If we’ve got dinner done early we’ll go out for a walk after dinner. It’s more opportunistic. On holiday going for a walk wouldn’t get planned either.

(Param Interview)

Veronica supported her children’s PA. She took them to their karate and encouraged them to spend time outside playing together in the garden. However, the family walk was not planned during term time or holidays. It was something that happened on an ad hoc basis.

It appeared from Veronica’s excerpt that the family walks in her family were instigated by either Veronica or her husband. However, as other excerpts have already shown, children were also found to instigate cross-gen PA, by inviting their parents to perform PA with them. Both children and parents used a range of strategies to instigate cross-gen PA. In the following sections, these strategies are explored, first for children and then for parents.

**Instigating: the child’s approach**

Children used a number of strategies to influence their parents to engage in cross-gen PA:

- they were opportunistic;
- they asked their parents to do a particular type of cross-gen PA;
they brought along their siblings to “turn up the volume” of their request; and
they asked to join in with their parent’s PA session.

Daniel, the youngest of three siblings, had a very direct and opportunistic way of instigating a wrestling match with his father.

Daniel (Child): If it’s wrestling it’s me. I jump on Dad’s back. It’s random and I don’t tell him so he doesn’t get a warning.
Kate (Researcher): Are there times that he won’t wrestle you?
Daniel: Yeah, I sort of feel annoyed, but then again I don’t, as sometimes I feel like he’s just scared. But then I don’t think he is! I’m happy though when he wrestles me and he makes me laugh as he tickles me.

(Child Interview)

When Daniel felt like playing he jumped on his father’s back and waited to see what response he provoked. Part of the ad hoc nature of rough housing with his father appeared to be a deliberate tactic to help give him the initial upper hand in the ensuing wrestling match.

Other children used a strategy of turning up the volume of their request in order to tip the answer in their favour. For example, Suzy (Child, Child Focus Group 2) said “I go up to Dad with my sister and say Dad can we go to the park?” And Liam (Child, Child Interview) brought his younger brother with him: “Me and Angus will go and ask Dad to have a kick. Dad doesn’t start it, we do.” When children instigated cross-gen PA by asking their parents to do a particular PA, they had to await their parent’s response. Both Suzy and Liam recruited their siblings to assist them in instigating PA with their parents. They used their numbers to increase the pressure on their parents, thus trying to influence the outcome and their parent’s consent.

Sometimes children asked to join in a parent’s PA. “Mum and Dad plan it the night before and I ask if I can come” (Daniel, Child, Child Interview). Daniel would overhear his parents planning their early morning PA session and ask to join them.
Parents also reported joining in their child’s PA, but parents tended to be more assertive in joining in rather than seeking permission to join. “Sometimes if they are playing, sometimes I’ll just jump in” (Melanie, Parent, Parent Focus Group). Although both children and parents essentially described the same strategy, the difference in power between parents and children resulted in slightly different approaches: children sought permission from their parent to join in their PA whereas parents tended to just join in, with a sense of assumed consent.

Thus far, it has been shown that children instigated episodes of cross-gen PA and employed a number of strategies to increase their influence. Parents were found to have differing styles to their instigation of cross-gen PA.

**Instigating: the parent’s approach**

Contrasting strategies used by parents to instigate cross-gen PA were dependent in part upon the type of PA, e.g. cross-gen recreation, exercise and sport and cross-gen active chores. A more permissive tone was taken in cross-gen recreation, exercise and sport, and both children and parents recounted parents offering their children a choice of whether or not they wished to take part. In contrast, a more authoritative approach was taken towards active chores; parents insisted that their children perform chores with them.

Children were given a choice of whether they wanted to join their parents in cross-gen recreation, sport or exercise.

Kate (Researcher): What else have you drawn? (Figure 6.2)
Rachel (Child): Walking with Mum. We go to the monument and back.
Kate: How does walking with Mum start?
Rachel: She says does anyone want to go for a walk?
Kate: So you get to decide?
Rachel: Yeah
Kate: Why do you choose to go?
Rachel: Because it’s some exercise and it’s interesting looking at things.
We usually walk a loop.

(Child Focus Group 2)
Figure 6.2. Rachel: Child Focus Group 2.

Although Rachel described being given a choice, it appeared that she usually agreed to walk. Likewise, Yasmine usually consented to joining her mother on a walk.

Yasmine (Child): Mum’s going to walk (Name) the dog and she says does anyone want to come with her?
Kate (Researcher): So you are given a choice?
Yasmine: Sometimes she doesn’t tell us that she’s going so we don’t know.
Kate: But if she asks you?
Yasmine: Then I normally go because I like it.
Kate: What do you like about it?
Yasmine: I just like getting outside I guess and we talk a lot.

(Child Focus Group 2)

For Yasmine, in common with many of the other children, the lure of time with her mother was an opportunity not to be missed. However, some parents found that their children would consent to join them for some types of PA but not for other types of PA.
Melanie (Parent): If we want something down the street we’ll walk. I very rarely say let’s go for a walk. I’ll go for a jog but the kids won’t come with me jogging, they say you’re mad! Rather than take the car we’ll walk down the street. It’s not an issue for them walking down the street to get some bread or whatever but I tend to ask them “do you want to come” and they both always come. We talk constantly. You get to talk and they’ll tell you all sorts of things.

(Parent Focus Group 2)

For some parents, there was a sense of predictability and routine in response to their invitations; they expected that their children would accept their offers. Melanie moderated her invitations, as her children would always consent to walk but refused the invitation for jogging.

Yet, not all parents’ experiences involved predictable responses from their children. Their children’s responses were dependent on other factors, such as the weather.

Hugo (Parent): I’ll say to my wife I’m going to take the dog for a walk do you want to come with me and more than not she will. And then its “kids, are you going to come with us?” Sometimes we get a bite, sometimes we don’t, depending on the weather. I think the weather has an influence but they are given the choice. They are always given the choice.

(Parent Interview)

In addition to the weather conditions, children’s exercise preferences seemed to play a role in child decision making. Hugo had three daughters, the middle one was in Year 5 at the time of the interview. Hugo described during his interview how his middle daughter was keen to take part in PA with him but he struggled to understand or motivate his eldest and youngest daughters, who did not enjoy being active or perhaps doing the PA that he offered.

Hugo (Parent): We go bush walking quite often, my middle daughter is the sporty one and loves walking around exploring. Whereas the other two will tolerate it for a bit and then will quite often just stop and sit down. In fact,
this weekend they returned to the car and sat in it! It’s weird, why on earth would you want to sit in the car? I feel it’s important to do. It provides opportunities to talk about what to do if you see a snake, how to react so I try to teach them those things. We do the household cleaning and chores together. I feel they could sit on the couch and let me do it all but I really want them to get up and have a go at some of these things too. That’s what I try and encourage them to do but that can be a struggle.

(Parent Interview)

Hugo let two of his daughters go back to the car, demonstrating his contrasting approach between recreation and chores. Similar to other parents, Hugo described how he would cajole his daughters to help with some of the active chores but was more permissive with other types of cross-gen PA, such as bush walking.

Some parents attempted to persuade their children to engage in cross-gen PA by highlighting the health benefits of activity.

Sue (Parent): Sometimes I am honest, especially in winter. There may have been some wet cold day so the incentive to be running around is low. I consciously say to them, as you haven’t been outside at school I think it is a good idea to get out and do some exercise because it’s important to move every day. So it’s explaining that it’s a healthy thing to do.

(Davis Family Interview)

Similarly, Denise used health reasons to encourage her daughter to participate in cross-gen PA.

Denise (Parent): With them you go down the line of health. So I say, let’s go for a run that will be really good for me, I need to do that. Sport and activity is not always about competition. I think they get that message at times at school in their health studies and it needs to be reinforced by us as parents. Doing something non-competitive with them is important, it sends an important message.

(Parent Focus Group 2)
Denise suggested that doing something non-competitive with her children may highlight the health maintenance aspects of PA more than doing a competitive sport activity with them but this point was not echoed by other participants.

Thus far, it has been shown that both children and parents instigated episodes of cross-gen PA. However, there was one type of cross-gen PA that was almost entirely instigated by parents, and that was household chores.

Denise (Parent): Unpacking the car. Every single day as we get home I say: “make sure you get your bag” and “can you come back, I’ve got x amounts of groceries. Can you go back to the car and make sure you get the last load”. I designate where things go and there’s usually a bit of reluctance. “Do I have to get another load?” Usually one runs off to the toilet trying to get out of things. We go away a lot and so we seem to be endlessly packing the car, carrying bags and unpacking the car.

(Parent Focus Group 2)

Denise insisted that her children help her unload the car. She was a busy mother of four children, the youngest in Year 5 at the time of the interview. All four children were engaged in regular organised sport and after school activities. They lived out of town and they often did not return home until the early evening. The family experienced pressure upon arriving home to complete homework, dinner, and getting ready for the next day. Denise was asked at the start of the interview to think of an episode of cross-gen PA that she would like to describe. She chose unpacking the car. Denise was a sporty person who regularly swam in a group and during the interview described how she would swim, run and walk with her daughter in Year 5, with obvious enthusiasm and enjoyment. Yet, when she was given the choice, she chose to describe unpacking the car. Her choice and subsequent description suggested that unpacking the car was a cross-gen PA that frustrated her.

Ensuring that their child contributed to the household through active chores often required the parent to conduct quality checking or monitoring for safety elements. Perhaps, it was the presence of these elements that ensured that the PA was a cross-gen PA rather than solo PA for the child.
Melanie (Parent): We do it together, Jim, my son and I. Otherwise there will be patches three inches wide with two foot of grass on the lawns! It’s just teaching him. No you haven’t got your right shoes on, go back and put your boots on. Emptying the catcher, turn it off; I make him turn it off rather than turn it down. Take the catcher off, empty it and bring it back and then pull the [indicates pulling cord] and he says “but it’s really hard”. So I tell him it will build up his muscles. Molly will come out and she’ll help me weed. We’re all outside and we’ll just do it, it’s good.

(Parent Focus Group 2)

Melanie controlled the chore of mowing the lawn. She initiated and directed Jim, her son, for safety whilst also monitoring the quality of his work.

Children’s descriptions of cross-gen chores did not convey the same level of enthusiasm as their descriptions of cross-gen sport, exercise and recreation. But they did identify advantages of performing cross-gen active chores when their parent insisted that they join them.

Ryan (Child): My Mum helps me clean my room because I’m terrible at it. I like doing it with my mum because she cleans up quicker than me so it’s done faster.

(Child Focus Group 4)

The advantage of being “terrible” at something had not been lost on Ryan. He sounded as though he might be quoting his mother when he said he was “terrible at it” but he was not in the least bit bothered by that label in that context. There was a sense of learned strategic helplessness in his excerpt. There was no incentive for Ryan to become better at cleaning his room. Quite the contrary, the reward for being “terrible” was that his mother helped him to clean his room and this expedited the finishing of the onerous task.

Contributing to the family was a distinctive purpose of cross-gen chores. Therefore it was probable that the responsibility parents felt to teach and enable their children to
contribute to their family influenced their decisions to insist that children participate in cross-gen active chores.

Anne (Child): Sometimes I have to empty the dishwasher whilst she is doing something else in the kitchen. She might be cooking and I just have to empty out the dishwasher and put it all away. I don’t like doing it.

Carol (Parent): I don’t think there’s any aspect of household chores that the kids like doing! The kids would not instigate any household duties without me being there or asking them specifically to do it. They will do it if I ask them. They need to learn how to do them. The dishwasher gets full, cleans and then it has to be put away so we can use it again. It’s so they learn and respect what occurs to run a house and learn what has to go on so they will then be able to do it on their own. We have a small kitchen. They are not doing it with happiness. It’s a feeling of, “right let’s get this done”.

(Benson Family Interview)

Insisting was an onerous aspect of cross-gen PA chores, not only for the children on the receiving end of the insistence, but also for those doing the insisting, the parents. Carol (Parent, Benson Family Interview) said: “It is a chore to get them to do a chore!”

Even though parents did not enjoy insisting that their children perform active chores with them, they nevertheless considered that it was a necessary aspect of family life and they considered that it was part of their job as a parent.

In this section, the instigation of cross-gen PA was explored. The next section covers children’s and parents’ responses to their cross-gen PA partner’s invitations.

**Responding to the invitation**

Daniel (Child): Sometimes it is “yes” and sometimes it’s “no, stay in bed and have a sleep in” and sometimes it’s a “ummm, maybe if you want to”.

(Child Interview)
This excerpt showed the differing responses to Daniel’s request to join in his parent’s PA. The starting of cross-gen PA was co-constructed. One participant instigated the episode and the other participant responded to the invitation. As suggested in the previous excerpt, responses to Daniel’s requests to join in his parents’ early Sunday morning run or cycle ride were varied. The variability in Daniel’s parents’ responses indicated that they were ‘gate-keeping’ Daniel’s inclusion in their PA.

Agreeing to take part in cross-gen PA (or allowing the other participant to join in) was undertaken with varying amounts of enthusiasm and appeared to be dependent on the participant’s enjoyment of and purpose for the episode of cross-gen PA.

Alan (Parent): Hopefully now the days are becoming longer, the sun is up at six, I can get back into walking. Whether Anne will come with me when she’s not down the pool?
Anne (Child): I don’t really like going for walks if it’s in the morning because if I have not got anything else on I like to stay in bed and read for quite a while.

(Benson Family Interview)

Anne began many of her days’ early, as during term time she had squad swimming and orchestra practice before school. Walking in the early morning with her father did not appeal to her, as it was another early morning activity. This illustrates how an individual’s context, including their other PA contexts might influence their cross-gen PA engagement.

Children’s requests were not always granted by parents.

Greg (Parent): The games in the shed are completely unplanned. Sometimes she asks to play table tennis or something but she might not get it straight away. I might play later in the day, or even a day or so after, it depends on what we have on. I try and do it.

(Parent Interview)
Parent’s postponement of cross-gen PA episodes (i.e. promising to participate at a later, more convenient time for them) transformed requests from children for spontaneous cross-gen PA into planned episodes. Being put off to a later time appeared to be a satisfactory response for children.

Liam (Child): I play with my Dad and my brother. I usually ask Dad if we can play cricket and sometimes he’ll put it off for a bit, ’til later in the day. I don’t really mind waiting as I can play by myself, bowling against the trampoline.

(Child Interview)

Postponing cross-gen PA to a later time took the timing of the PA out of the control of the child and into the parent’s domain.

Individual participant’s preferences also influenced cross-gen PA partnerships. Participants’ refusals of invitations were at times related to their interest and enjoyment in the particular type of PA.

Denise (Parent): I can’t bear computer things. I’ll watch my kids play them. In fact my family bought me a 6Wii for Christmas. I have never touched it. I’m quite happy to let them do it but even if they ask me do you want to join in, I don’t. I do tell them it’s not my thing.

(Parent Focus Group 2)

Denise’s dislike of Wii-type PA led her to refuse invitations for this type of cross-gen PA. Therefore, it was important that potential partners suggested both activities for cross-gen recreation that each partner enjoyed and a time that was acceptable to the partner, in order to gain assent for participation.

This need to enjoy a type of cross-gen recreation or sport strongly influenced decisions to engage even though some parents experienced guilt if they refused a child’s invitation to cross-gen PA.

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6 Wii – home video game console released by Nintendo 2006
Clare (Parent): Absolutely, he bought me a bike and I don’t have an excuse. It’s that guilt thing that goes with it, when you don’t fulfil these ideas that you should be doing. I have guilt all the time.
Kate (Researcher): Guilt?
Clare: Self-guilt for me, and not enough with my children. If my son’s asking to go and do something and I’m saying “no”. I mean I could, I really could. I use the excuse of I’ve got to make dinner or I’ve got to do something. But I could do it. I don’t because it’s not what I want to do. It’s not what I want to do now that I’ve come home from work and I just want to veg. I don’t want to think about doing anything. I know he’s going to want to play tennis or something and I’m thinking no I don’t want to do it. I feel bad. I feel bad that I don’t always go, “yes, of course darling, we’ll go”.

(Parent Focus Group 1)

Clare’s objectives for cross-gen PA with her son were to talk and spend time with him. She did not enjoy sport activities and she struggled to motivate herself to engage in PA even though she felt guilty refusing her son’s invitations.

Fatigue and other duties were two elements that were often mentioned as components in a participant’s refusal of a cross-gen PA invitation.

Jody (Child): Sometimes when I’m really tired; then if I have to go, I go and try my best and sometimes I shake it off and sometimes I don’t.

(Child Interview)

Jody was sometimes able to overcome her feeling of fatigue but it appears as though her fatigue had little influence over her engagement in cross-gen PA. In contrast, when parents were tired, cross-gen PA might not happen at all. This illustrates the finding that parent’s experiences were more influential than children’s experiences in determining whether cross-gen PA occurred.
Julie (Parent): Sometimes he asks and we can’t go as it’s not going to fit in around getting dinner ready or something has to be done or I’m feeling exhausted.

(Aitkin Family Interview)

Parents could refuse cross-gen PA at will, citing any one of several different reasons. However, children were not always afforded the same level of control as their parents, and at times children were compelled by their parent to engage in cross-gen PA.

In summary, the starting of cross-gen PA was co-constructed. Both children and parents were found to instigate cross-gen PA and to respond to invitations from their cross-gen PA partners. Starting appeared to be influenced both by the family’s fabric, in the form of habits and routines, and by the individual participants’ preferences and feelings. In relation to the latter, offering to perform a PA that their partner enjoyed and selecting a time convenient to their potential partner were both found to be important factors in gaining assent from a cross-gen PA partner. They were also important factors in ensuring the cross-gen PA partnership did not stop prematurely.

**Stopping**

Stopping of cross-gen PA occurred in a number of ways. Not all of them required intervention from a participant. Stopping was sometimes the result of reaching the destination or finishing the task or game according to the habits and routines set within the family’s fabric. Those scenarios were described by participants in a matter of fact manner.

Yasmine (Child): I’ve drawn playing tennis with my Dad.
Kate (Researcher): How does that start?
Yasmine: I go, Dad can we play tennis? He’s just like “Yup”. We have a tennis court in our garden you see.
Kate: Does he sometimes start it?
Yasmine: I don’t think he starts it at all. We play a set and then stop.

(Child Focus Group 2)
Yasmine already knew what asking her father to play tennis would involve: “a set and then stop”. Thus, families created habits for cross-gen PA that provided a timeframe or limit on the PA and may therefore have increased each participant’s willingness to agree to the cross-gen PA episode. Although it is not clear who decided that tennis ought to be limited to one set, both participants were aware of the unwritten ‘rule’. The ‘one set rule’ had become part of their habit and part of their family’s fabric. Yasmine’s excerpt also revealed her sense of control. She controlled the timing of the game. However, due to the ‘one set rule’, it was a ‘modulated’ influence.

There were times that the children stopped cross-gen PA, usually because of a lack of interest in the particular type of PA. For example, Hugo and his daughters went bush walking and his oldest and youngest daughters walked around for a while and then returned to the car when they had had enough, even though Hugo and his middle daughter continued their walk. However, repeatedly the data showed that stopping cross-gen PA involved parental control.

Kate (Researcher): How does it end?
Greg: I get an idea of what she wants to do and judge it accordingly. If she’s tired I make sure we don’t overdo it. If she’s keen to do lots I’ll quite happily go and do a fair bit but generally I judge it. She sometimes says she wants to do a bit more and I decide she’s done enough. That’s when we stop.

(Parent Interview)

In the previous excerpt it can be seen that Greg had ultimate control over stopping an episode of cross-gen PA and he overruled his daughter’s wishes if he considered that she had done enough.

Stopping of cross-gen PA appeared to be the area of cross-gen PA in which children had the least amount of influence and power, and parents had the most. The children’s lack of control over this aspect of cross-gen PA seemed to cause them annoyance and angst.
Liam (Child): Sometimes when Angus gets out and smashes his bat, Dad goes in and that is the finish of the game. Angus gets angry and Dad does not want him to, so he puts a stop to the game. I feel angry because then I can’t play for something I haven’t done. It’s not fair. We don’t talk much when we play cricket because we’re concentrating on the game. Dad will finish it by saying, “when you get out, the game is finished”, so then I know it will be finishing soon.

(Child Interview)

From Liam’s perspective, finishing the game of backyard cricket because of his younger brother’s behaviour felt unfair. The second way of finishing the game, which was also not within Liam’s control, did not appear to cause him the same amount of angst, perhaps because having had the warning, it was not an abrupt finish nor was it due to someone else’s behaviour. Liam appeared to accept the limit that being given a warning that the game the finishing was a more equitable experience than stopping because his younger brother had acted up.

Children felt irritated by their parents stopping cross-gen PA.

Suzy (Child): Like when they have to go to work or do things.
Ginny (Child): Or have to go home to cook dinner.
Rachel (Child): Or when they have to go and clean, or do something and it’s time to pack up or finish.
Kate (Researcher): Sounds like you’ve had experience of this?
Rachel: It’s annoying.
Suzy: Sometimes we haven’t had much of a go at it, it’s annoying.

(Child Focus Group 2)

In the excerpt above, the children’s annoyance was palpable, particularly when they felt cross-gen PA had ended prematurely and they had been short changed. However, being short changed was relative to the experiences of each individual child.

Adam (Child): We go to the soccer field but we don’t get that much time.
Kate (Researcher): Who do you go down to the soccer pitch with?
Adam: My dad. It's fun. My bubble says I'd like to go down there more often and I’d like more time when I go.
Kate: Why do you think it is that you don’t get more time?
Adam: Mum and Dad are busy.
Kate: Do you know how long you get there, have you got a watch?
Adam: An hour or two hours.
Kate: Is it reasonable do you think to spend longer?
Adam: No, but I’d still like more time.

(Child Focus Group 1)

Adam’s expectations might not have been realistic or feasible but they do underline the enjoyment and the depth of children’s’ feelings for performing cross-gen PA with their parents and the sometimes unrealistic expectations that children might have of their parents.

In contrast to starting cross-gen PA, where children identified strategies to influence their parents, the children did not appear to have strategies to prolong cross-gen PA. Cross-gen PA was sometimes prolonged but not because of child influence.

Harry (Child): I’ve drawn swimming with my Dad. I like relaxing after a hot day at school. I don’t like having to leave. I always want to spend longer there. Luckily my Dad often loses track of time. Usually he sets a time to leave, but he loses track and we get to stay for another half an hour.

(Child Focus Group 3)

Harry’s delight in playing with his father linked to his enjoyment of the pool on a hot day was obvious and enhanced by his father’s engagement with him. That this caused his father to lose track of time and stay longer than intended was an added bonus. Harry attributes luck as allowing him additional time, rather than developing a deliberate strategy to distract his father.

Children had the least influence and control over stopping in a cross-gen PA partnership. The stopping of cross-gen PA required only one participant to stop for cross-gen PA to cease and children did not appear to have strategies to influence their
parents during the stopping of cross-gen PA. Nevertheless, stopping was less likely if the adaptations made in the cross-gen PA context were acceptable to all participants. The adaptations that participants’ experienced during episodes of cross-gen PA are examined in the next section.

Adapting

Cross-gen PA participants were found to adapt their performance of a PA so they could accommodate their cross-gen PA partner. For example, one of the cross-gen PA partners might have to reduce their pace in a PA to accommodate the slower pace of their PA partner. This could result in the participant feeling that they had completed an inadequate PA session to meet their individual PA expectations or needs.

A striking aspect of the findings was how readily comparisons were offered by both children and parents with and without specifically directed questions. Comparisons between PA contexts revealed the adaptations both positive and negative that took place in the cross-gen PA context and the impacts of those adaptations on the continuum of enjoyment of cross-gen PA. Comparisons were sometimes favourable, for example, Jody (child), who found that the cross-gen PA context enabled a more encouraging atmosphere when practising tennis with her father than when she played with her brother. Comparisons could also be neutral, such as that discussed by Veronica (parent), who believed there was no difference between the conversations at meal times and the conversations whilst cross-gen walking. In addition, comparisons could be unfavourable. For example, Debbie and Clare (parents) thought that cross-gen PA did not give them the “head space” and “endorphin hit” that they wanted from “exercise”.

In order to examine, in depth, the adaptations that occurred during cross-gen PA, cross-gen active chores and active transport are discussed separately to cross-gen sport, exercise and recreation in this section.

All participants felt that active chores were physically boring and monotonous, and neither children nor parents were particularly keen to do them.
Anne (Child): Sometimes I have to empty the dishwasher whilst she is doing something else in the kitchen. She might be cooking and I just have to empty out the dishwasher and put it all away. I don’t like doing it.

(Benson Family Interview)

Dean (Parent): If it’s too much of a chore or too mundane then none of us are excited about it and them more so.

(Davis Family Interview)

Therefore, it is not surprising that the participants’ focus shifted to their social interactions and these were welcomed as a delightful distraction from the boring monotony of the physical task.

Jody (Child): That’s OK with my parents. I talk more when I’m doing it with my parents about what we are doing during the week and things like that. With my brother, he does silly things like drive the bin in front of me just to bug me.

(Child Interview)

Jody was typical of children who compared their experience of cross-gen chores to performing chores with a sibling. Although Jody was not enthusiastic about taking the bins out with her parents, she found the social interaction with them improved her experience of the task when compared to her experience of doing chores with her brother. The social interaction with her parents was a pleasant experience that distracted her from dwelling upon the physical monotony of the task.

Cross-gen active chores meant that although children were performing them, they also gained help and this resulted in increased efficiency and reduced duration in performance of the chore. Cross-gen active chores appeared to be achieved with very little need for either children or parents to physically adapt their experiences. In addition, the resultant social aspect and reduced duration and effort were usually considered a bonus rather than detracting from the experience.
Naomi (Child): It’s probably easier with Mum or Dad because Bob (younger brother) struggles to fold clothes sometimes so we have to re-do them. He can’t really fold.
Sue (Parent): To your standard!
Naomi: It is easier and more efficient with my parents.
Kate (Researcher): Would you like to share your experience of folding clothes?
Sue: I don’t mind, it’s just sharing again. It’s just a communal task which you can consider a chore. Which to a degree it is or it is just something we can do together. And it makes it efficient and we’re all helping to contribute to our family. Again it is the time that those incidentals, we chat about something, or laugh about something, or remember a story that we can share. I can remember doing the same thing when I was growing up. Putting my Mum’s undies on my head or something like that and my brother and I cracking up thinking we were hilarious. And we probably weren’t that funny but we were enjoying ourselves.

(Davis Family Interview)

The previous excerpt was characteristic of both children’s and parents’ descriptions of cross-gen chores and the adaptations experienced were generally positive for both children and parents.

Adding novelty to a cross-gen chore was another approach which could enhance a participant’s enjoyment of a potentially boring chore. “Sometimes it is a bit of a chore but sometimes it’s fun especially when we go down with the billycart” (Naomi, Child, Davis Family Interview). The cross-gen PA Naomi was discussing in the previous excerpt was picking citrus fruit with her family, which involved walking down to the orchard, picking the fruit and coming back up to the house with it. The novelty of going down to the orchard with the billycart added an element of fun and playfulness that could enhance a participant’s experience.

Likewise, routinely performed cross-gen active transport, such as walking to the bus stop for school, was reported to feel like a chore. It was physically monotonous and thus it was experienced as less enjoyable than other types of walking.
Naomi (Child): With bush-walking, if you have not been there before you don’t know what to expect whereas going to the bus stop you’re just following the driveway and you’ve done it lots and lots of times.

Sue (Parent): It becomes a bit of a chore at times.

(Davis Family Interview)

The Davis Family engaged in several different types of family walks. They walked to the school bus stop and around their block of land at the end of the day to catch up on everyone’s news. They also went on cross-gen bush-walks. Sue sometimes used distraction to enhance the experience of the daily trapse to the bus stop.

Sue (Parent): We do that most days to go to school. Quick we’ve got to go now! It is a nice time. Certainly when they were smaller, the nature of the exercise had to take a different shift. Before Mel started school there was always a drama just about the time we had to go. It became a chore to get out the door so we changed the focus and started an ongoing story, which went for a couple of months that we would tell on the way to the bus. That changed getting out the door on time, it distracted I guess. It became a little bit of a family story and this story has been re-hashed many times since. It became a really nice time. Often when we do other walks we get the kids to pick a character or two each and we’d all have to incorporate them into a story. It became a good way of getting to a destination without the kids focused on the distance they had to cover. We don’t need to do that so much now they are all such good walkers but occasionally on a longer bush walk a story will be told.

(Davis Family Interview)

Sue also provided her children with another element from which to gain enjoyment, a story. This provided distraction from the monotony of walking to the bus stop.

Distinct from active chores where a novel element could be introduced to enhance the PA experience, active transport itself could be experienced as the novelty on shopping expeditions.
Keira (Child): Sometimes Mum will say we need to go down to the store and get some eggs and milk. She’ll bring a back pack and we’ll ride down to the store. We’ll buy everything, put it in the back pack and ride back. It’s fun.

(Croft Family Interview)

Thus, participants drew enjoyment from the additional social and novel elements of cross-gen active chores and transport and this provided relief from the monotony of the physical elements and thus enhanced their experience of cross-gen active chores and transport. In other words, there was a sense that the mostly social adaptations made when performing cross-gen active chores and transport were viewed positively and could enhance a participant’s experience of those tasks.

In contrast to the consensus found in participants’ experiences of adapting in cross-gen active chores and transport, participants’ reactions to the adaptations they made in a cross-gen sport, exercise and recreation episode varied widely. All elements, including the social elements of these types of cross-gen PA, were found to contribute to the enjoyment for some participants. However, those same elements were viewed as detractors by other participants.

The first barrier to engagement in the cross-gen sport, exercise and recreation was related to the type of PA.

Clare (Parent): That’s the biggest thing I do with my 12 year old. He is inclined to ask for time. I’m inclined to be too busy and put off times that I could be more involved. I tend to fob it off more on the older children to do it with him. I don’t really do a lot of stuff with him but the swimming is one thing that we enjoy. I just find that coming home from school and being able to have swim is a good time to de-stress a little bit. A good time for talking and it gets him off my back. I think he feels like he’s had a bit of me one on one. We’ve both got something out of it. I really don’t want to go and kick a ball as sport’s not my thing. With swimming, I’m quite happy to go there and I find it quite easy to say “yes” to that. I find it a lot harder to say “yes” to the other stuff. Also, because he’s a boy, he’s
inclined to want to do “boy things” and he’s got an older brother so I rely on them doing that together. But I think it was different with my daughter, she would have quite happily come for a walk with me, whereas he doesn’t want to come for a walk.

(Parent Focus Group 1)

Cross-gen swimming was a cross-gen PA that Clare and her son both enjoyed and were both happy to engage in together. Clare admitted to putting off times to be physically active with her youngest son, who was in Year 6. She was not a regularly active person and did not enjoy sport and this made it hard to find cross-gen sport activities to do with her son because he was not a keen walker. Picking a cross-gen PA that both participants could gain some enjoyment from was identified by parents as important for engagement in cross-gen PA.

The least active mothers, including Clare, felt that the gender of their child was an influencing factor in finding PA which both they and their child could enjoy together. These mothers reported that they found cross-gen PA easier to achieve with their daughters than with their sons. It is possible that their opinion was a reflection of their lack of enjoyment and engagement in PA in general rather than the gender of their child. In contrast, fathers did not mention gender in relation to engaging in cross-gen PA with their children. All of the fathers with daughters described engaging with their daughters in cross-gen sport and exercise that both genders traditionally engage in. Examples of these were tennis, hockey, basketball, swimming and soccer. Three of the fathers with daughters were regularly active. Alan was not active but similarly to the more active fathers, Alan described participating with his daughter in the gender-neutral sports and exercise of swimming and walking.

Once the type of cross-gen PA had been agreed upon, the next barrier for engagement in cross-gen sport, exercise and recreation was adapting the PA to the cross-gen context which often meant adapting the pace or duration of the PA. Children and parents were conscious of how they compared to each other in terms of skill and pace in performance of PA. These comparisons highlighted that there were few participants who were evenly matched with their cross-gen PA partner in speed or endurance capacity. Yet, in spite of participants’ knowledge of each other’s physical capacities, the ways in
which they adapted a PA to suit the cross-gen PA context was rarely volunteered by
the participants during interviews and in some cases, as can be seen from the excerpt
below, required some consideration to answer.

Veronica (Parent): We all seem to keep up with each other. We’ve had four
weeks in America just recently and that was go, go, go. We walked around
a lot. I’m a fast walker and so we went at their pace. It is fine going at their
pace. When we need to they can all speed up a little bit, but we just go a
comfortable pace that’s suitable for everybody.

(Parent Interview)

It appeared that adapting a PA for cross-gen PA did not often involve deliberate shared
decision-making. Adaptations were made to the performance of cross-gen PA without
discussion between the participants. In other words, there was a falling into step by
participants. Falling into step with the PA partner was achieved in one of three ways:
one participant slowed down, one participant sped up, or participants found a middle
pace (in the last instance, both participants adjusted their pace). Figure 6.3 provides
examples of participants falling into step.
Slowing Down
Darius (Child): Mum is easy to keep up with but it’s harder to keep up with Dad.
Kate (Researcher): What happens?
Darius: He slows down. (Child Focus Group 4)

Colin (Parent): Occasionally we’ll go for a walk, it’s about 5 km. He likes that because it’s chatting time but sometimes I have to get him to speed up because I’ve got other things to do. When it’s a casual walk to the basketball court I’ll just slow down so that we can talk. (Parent Interview)

Speeding Up
Cara (Child): Mum walks fast.
Kate (Researcher): How does that work?
Cara: I keep up.
Kate: How do you keep up?
Cara: By walking fast, I just speed walk or run. (Child Focus Group 2)

Suzy (Child): I don’t really mind, me and my mum go for walks around the block with Buff. She’s a really fast walker so I just run and then she keeps walking away from me and I keep running up and it just goes like that. (Child Focus Group 1)

Coming Together
Suzy (Child): I run fast and Mum runs really slowly but longer. When we run together, I go a bit slower and she goes a bit faster. (Child Focus Group 1)

Hugo (Parent): I walk fairly briskly and they can keep up. I grab the littlest one’s hand and she keeps pace with me even though I’m twice the height of her.
Kate (Researcher): So you’re not slowing down for her?
Hugo: I think together we find a medium pace. I could always walk faster and when I go to the gym and on the tready I’m definitely go faster then. (Parent Interview)

No Mismatch
Julie (Parent): Pete and I are getting close in size, shoe size in particular so I know Pete is capable of walking pretty fast and he’ll go a bit further. (Aitken Family Interview)

Mismatch for Some Activities
Margo (Parent): The girls are really as big as me in height so my footsteps are probably their size so there’s not much difference with walking. I do consider their age and stamina if we are going somewhere far. When we are riding I always let them go in front of me so I can keep an eye on them so I just go at their pace. When I go biking on my own I go for a lot longer, I’m in my own little world then. (Croft Family Interview)

Figure 6.3. Falling into step.
Each adaptation appeared to be unique to the individual cross-gen PA context; sometimes no adapting was required and sometimes one or more participants had to adapt. Margo did not need to adapt her pace when walking with her daughters, as they were the same size as her and could maintain the same pace as her (Figure 6.3). However, she had to make adaptations when cycling with her daughters because her daughters were slower than her at cycling and they had less endurance than she had when cycling.

Liam: (Child): Mum’s got a road bike and I do too so I go with her sometimes. And then Dad’s got a mountain bike and I do too, so sometimes we go to the reserve and go around that. When I go with Mum it’s quicker because we’re on a road bike and it’s not social, you’re not really talking much. When I’m with Dad it’s more a social ride. With Mum, she’s fast, I try and keep up and put it in a higher gear, it’s OK because it pushes me. Sometimes Angus comes when I go with Dad as he has a mountain bike as well. When we’re together we just go at Angus’ pace so that we’re all at the same pace.

(Child Interview)

The previous excerpt underlines the finding that different contexts required different adaptations and demonstrates child participants’ clarity in comparing and describing the adaptations between cross-gen PA contexts. Liam had a rich variety of cross-gen cycling to compare and contrast. It was also interesting to note that children of this age group appeared to have little say in the adaptations that took place, even though the adaptations could have a marked impact on their cross-gen PA experience. However, children did not appear to make adaptations more than adults, or vice versa. Nor was it always a case of adapting the cross-gen PA to the pace of the slowest participant, or to the participant with the least endurance.

Colin (Parent): Occasionally we’ll go for a walk, it’s about 5 km. He likes that because it’s chatting time but sometimes I have to get him to speed up because I’ve got other things to do. When it’s a casual walk to the basketball court I’ll just slow down so that we can talk.

(Parent Interview)
It appeared that many of the adaptations were relatively simple to achieve and took place without much, if any, discussion beforehand but physically adapting to the cross-gen PA context, by slowing down or speeding up, could impact upon a participant’s enjoyment of the cross-gen PA.

Kira (Child): I do physical activity with them because it’s fun. I don’t like it when I’m at my Dad’s and he goes off running up the beach really fast. We have to follow him while watching out for bluebottles\(^7\). It’s hard to run on the sand and he runs for a long time. Sometimes if he’s going too far I turn around before him and run back in front of him.

(Croft Family Interview)

Although the parent is not adapting in this excerpt, Kira adapts her engagement by turning around earlier. Not adapting the PA to suit the physical capacity of the child and thereby making the experience too hard for the child was mentioned by children as an aspect of cross-gen PA that they did not like. Waiting for slower parents was also discussed by children with a degree of irritation.

Jody: (Child): With your parents you try to keep up with them. If they’re slower, then you slow down because you’ve got no-one else to keep up with.

Kate (Researcher): How does that make you feel when you slow down for your Mum?

Jody: Sometimes I don’t mind, sometimes I get annoyed because we have to wait for her.

(Child Interview)

Jody ran with her whole family as well as being a running partner with each of her parents. Her father, Greg was a faster runner than her, whereas her mother was slower and slowing down to wait for her mother could impact upon her enjoyment of her cross-gen running experience.

Thus far in this section, the adaptations that participants made to perform cross-gen PA

\(^7\) Bluebottle is a type of jellyfish
together have been discussed. However, some participants described ways to accommodate both participants’ physical capacities by making more complex adaptations.

Denise (Parent): I’d say, “You get to the end and then come back and get me and then we’ll carry on. Or you go down there and then come back and I’ll keep plodding along”. When I go for a run with her it’s about her and what she needs. She’s a faster runner, so I’ll run along and we’ll go as fast as she wants to. She can run faster but probably not as far so we’ll run as far as she wants to go and it will be about her whereas if I run for myself, I’ve often got a Walkman and it’s all about me.

(Parent Focus Group 2)

Denise’s objective behind running with her daughter was about enabling and accompanying her daughter on her run. She did not have the capacity to keep up with her daughter’s pace but she accommodated for her lack of pace by suggesting that her daughter runs some intervals within their run. Likewise, Greg, who was faster than his daughter at both running and cycling, used interval-type training with his daughter to enable both participants to achieve their own intensity and goals for that episode of cross-gen PA.

Greg (Parent): Sometimes there’s not too much you can do, you just have to go at their level and sometimes we’ll do interval-type things where I can go at my speed and she can go at hers. You can do intervals with running, with biking; you can break it up so we go at our speeds but we still stop and catch up and start again.

(Parent Interview)

Greg described three ways during his interview, that he adapted cross-gen PA with his daughter: slowing down to her pace, using interval training, and having two separate sessions (his own individual session and then a second session at his daughter’s pace). Greg described in his interview how cross-gen PA interval sessions would commence and finish with a slower paced warm up and cool down, by going at the pace of the slowest participant. Figure 6.4 provides other examples of ways that parent participants
adapted their PA to accommodate different physical capacities.

**Taking Breaks to Perform Own Intensity PA**

Hugo: (Parent): I’ll say to her at times when we’re there you go and do your thing and I’m going to go and do a few laps because for me, even when I’m with her at the pool, I’m happy to swim around a bit but I think while I’m here I want to achieve something, so I say I’ll come back in a few minutes but I’m going to do 100 m or 200 m and then come back to you.

(Parent Interview)

**Performing Different PA but Together**

Nicole: (Parent): If we go out for a family bike ride, I ride the mountain bike not the road bike or I’ll often run whilst they ride.

(Parent Interview)

**Complex Plans**

Greg: (Parent): When it’s just Jody it’s much easier to cater to what she might need, what she can do. Once it’s all of the family it can get more complicated. She has an older brother and we are often trying to make sure he gets a sensible amount of exercise too, so we have to adjust what we do to accommodate him and her. It’s just a bit of deciding beforehand what you are going to do. It might be that the other child gets a bit extra before or after or some sort of intervals. Sometimes me or my wife starts with my son and then one of us will join them with Jody later or I start on my own, they join me and then I take Jody home whilst Mark and my wife carry on.

(Parent Interview)

**Taking a Different Route**

Denise: (Parent): We’re older parents and my youngest was born when I was 40 and I think that gave me a degree of awareness as I don’t want to get hurt. I might try and swim a little bit faster but that’s not going to hurt me but I’m not going to try and keep up with a runner [as] I will just hurt myself. I’m not going to try and keep up with them skiing [as] I’d have a crash. I’ve always thought when I’ve seen parent do it that I’m too old for that. I handle it very simply. I can’t do that run so I meet them at the bottom of the chair.

(Parent Focus Group 2)

Denise: (Parent): I don’t think you actually have to do everything with them to be part of what they are doing. I think the thing is to give it a go or for me at times I think that’s fantastic, have a go at it but I’m just going to take the easy way.

(Parent Focus Group 2)

**Going the Same Route at Different Speeds**

Rosy: (Child): Normally my Mum will just walk because she can’t keep up with us but she does swing her arms and sometimes I ride my bike.

(Child Focus Group 4)

*Figure 6.4. Complex adaptations to accommodate different physical capacities.*
Some parents did not consider that the cross-gen sport, exercise and recreation they engaged in formed part of their PA and they did not attempt to gain their PA in the cross-gen PA context.

Debbie (Parent): I don’t see doing stuff with my 12 year old as exercise because I have my own stuff for that, it’s more of the time together and family time. You’re looking out for them, it’s different. It doesn’t meet my needs for exercise which are to clear my head [and produce] endorphins. It’s not hard enough. It’s just a different, its relaxation.

Clare (Parent): I don’t think of it as exercise either, it becomes a non-event. You’ve got to encourage them to keep up or to keep going or whatever. I just think of it as family time, I don’t think of it as exercise.

(Parent Focus Group 1)

Debbie was regularly active, whereas Clare was not. However, neither parent considered cross-gen PA as a context in which they gained “exercise”. This suggests that the adaptations that they underwent to engage in cross-gen PA affected their experience of the PA enough to cause them to dismiss or ignore the other possible health gains for themselves. In contrast, Denise and Greg (Figure 6.4) attempted to achieve dual objectives of enabling their child’s PA, while at the same time achieving their own “exercise” as well. The following excerpt lends further insight into Debbie’s experience of cross-gen exercise.

Debbie (Parent): It’s different because you’re watching them, you can’t completely switch off. It’s nice too because you’re doing something together and you can have a comment or talk about something. It meets a different need. It doesn’t meet your exercise need, that’s still there but it’s a different need in terms of connecting with your child.

(Parent Focus Group 1)

Thus, Debbie’s adaptations during cross-gen exercise were not solely about the reduced intensity of the PA but also about the lack of “switch off” time. These excerpts offer some insight into the possible adaptations and effects of those adaptations on participants’ enjoyment in cross-gen PA. These insights help to explain why some
parents might invite their children into their PA space while others, due to a lack of enjoyment and ‘headspace’, do not.

The adaptations made during cross-gen sport, exercise and recreation were viewed in either a positive or negative light by participants. This finding highlights that although cross-gen PA was a PA partnership, there were (at least) two individuals, both of whom had their own individual objectives for each cross-gen PA episode.

In this chapter, the cross-gen PA partnership has been explored. Cross-gen PA was found to be a complex PA partnership that took place within the child-parent relationship. There were differences between children’s and parents’ roles in cross-gen PA. Parental influence appeared to be a steady underlying tone explicit throughout cross-gen PA. In contrast, children were found to use strategies involving shorter bursts of influence or control. In the next chapter the cross-gen PA partnership is examined more deeply by considering the two individuals at the heart of cross-gen PA partnership: the child and the parent.
CHAPTER SEVEN
TWO INDIVIDUALS SHARING CROSS-GENERATIONAL PHYSICAL ACTIVITY

Introduction

Two individuals sharing was at the heart of cross-gen PA. The individuals’ experiences of cross-gen PA ranged from mandatory (child perspective) and duty (parent perspective) to a transcendent shared joy that some participants suggested they could not replicate in any other context. Cross-gen PA was sometimes just about mere sharing of the same vicinity in which to perform PA and sometimes it included having a shared objective and shared social and emotional bonds. In this chapter, both child and parent individual experiences of cross-gen PA are explored (Figure 7.1).

Figure 7.1 Two individuals are at the heart of cross-gen PA
The chapter begins with a section titled, *serving my objectives within our cross-gen PA partnership*, which explores the interplay between a participant’s relational and personal objectives for cross-gen PA. The next section, *I’m practising and I’m improving* explores an element of cross-gen PA that was found to be particularly important to children. This is followed by a section titled, *helping me to be a parent*, which explores the strategic ways that cross-gen PA was used by parents to help them fulfil their parenting roles. The chapter finishes with an exploration of bonding within cross-gen PA in *building an intense closeness through cross-gen PA*.

**Serving my objectives within our cross-generational physical activity partnership**

In this section some of the elements of cross-gen PA that may inform a participant’s decision regarding whether to participate or not engage in cross-gen PA are highlighted. A participant was found to hold many different objectives for cross-gen PA; some of them related to strengthening their relationship with their PA partners and some related to ensuring achievement of individually held objectives. Cross-gen PA took place in a many different contexts and thus objectives of cross-gen PA were varied. For example, a Year 5 student, Ginny opted not to draw a picture but wrote several examples of cross-gen PA with thought and feeling bubbles (Figure 7.2).
Figure 7.2. Ginny: Child Focus Group 2

Ginny’s drawing illustrates the multiple objectives for cross-gen PA from her perspective and the many contexts in which she performed cross-gen PA. Her drawing shows four different contexts in which she performed cross-gen PA (with the whole family, with both parents and with each individual parent) and her thought and feeling bubbles hint at her objectives behind each cross-gen PA context. In the following excerpt Ginny explained part of her drawing.

Ginny: Playing tennis with my Dad.
Kate: Tell me about that.
Ginny: It helps me improve because he’s better than me so it’s easier to teach me and [there is] less arguments.
Kate: Why’s that?
Ginny: Because I’m not with my big brother.
Ginny’s description of playing tennis with her father suggested that her objective for that cross-gen PA episode was about Practising and improving her tennis skills. This objective is examined later in this chapter. She compared playing tennis with her father to playing against her older brother and suggested that playing with her father was a more co-operative experience.

Likewise, parents’ objectives for cross-gen PA were also varied.

Margo (Parent): We’re not a very quiet household. I find I need to get up half an hour early in the morning to have quiet time because Keira is quite a talker! I don’t feel I use doing exercise with my children to talk, [rather, it is] more to move, go somewhere or get them off their IT [information technology]. It’s time where it’s a bit more focused on fun.

(Croft Family Interview)

As illustrated in the previous excerpt, Margo had several objectives for cross-gen PA: getting her children moving, engaging in active transport, extracting her children from using computers and other technology, and having fun.

The previous excerpt also illustrates that parents’ objectives for cross-gen PA might not be related to their objectives for their own individual PA. Margo’s objectives for cross-gen PA were more physically-based than the objectives of some of the other parents who were more active than her. Thus, Margo’s excerpt highlighted that cross-gen PA was not as straightforward as active parents using cross-gen PA for active objectives and vice versa. In other words, parents’ objectives for cross-gen PA were not always the same objectives that might drive them to perform that particular type of PA in other PA contexts, for example, as individual PA.

Parents’ objectives for cross-gen PA tended to be strategic; that is, they used cross-gen PA as a vehicle by which to achieve their parenting objectives. For example, many
parents used cross-gen active chores as a way of ensuring their child contributed to the family household. Parents’ use of cross-gen PA in a strategic and relational way within the child-parent relationship contributes to understanding why parents appeared to be conscious of the necessity to adapt their PA experience during cross-gen PA. Such strategic use of cross-gen PA by parents may also be a reflection of the greater power and control they exerted in some aspects of cross-gen PA and within their child-parent relationship.

Cross-gen PA partners sometimes had different objectives from each other. That is, children and parents did not need to share the same objectives in order for cross-gen PA to occur.

Pete (Child): Mum mostly starts the gardening. I do it when I want to make some money.

Julie (Parent): I enjoy gardening and I like Pete to share in my understanding of what I like about gardening. It’s not for the physical activity side of it; it’s for sharing something I enjoy.

(Aitken Family Interview)

Julie was a keen gardener in her spare time and she enjoyed sharing her love of gardening with her son Pete. But Pete had different motivations for gardening with his mother. He was rewarded with money for helping his mother, so when he was saving up for something, he would offer to help his mother in the garden. This showed that an individual’s motivations for performing cross-gen PA could be distinctive from their partner’s motivations. Though cross-gen PA could be viewed as a PA partnership, it was a partnership that could accommodate a range of different objectives or motivations. Thus, there was a sharing continuum between partners during cross-gen PA: at one end of the continuum, cross-gen PA sharing simply involved sharing the same PA space (as it was possible to perform different types of PA but still be together, for example, running and biking); and at the other end of the continuum, everything was shared, including the objectives for the PA.
Sometimes there could be difficulty in striving to accommodate both relational and individual objectives of participants within cross-gen PA. In the following excerpt, the Benson Family were discussing cross-gen Wii-gaming.

Anne (Child): When we do it, it’s really funny to watch them because they don’t really get it. We have to teach them and show them how it goes. Sometimes it’s funny because even though you are explaining it time and time again they still don’t get it. They’re still losing and don’t know what they’re doing. It’s a good experience for me, it’s fun but I don’t know if they like it.
Kate: Does that impact your experience?
Anne: No, because I get to win.
Kate: Alan and Carol do you want to comment on the Wii-gaming?
Alan (Parent): I don’t have time for Wii-gaming. I think I’ve only been on it once.
Carol (Parent): I tend to do it. They’ll drag me to do it. It’s usually when I feel I need to spend some time with them. I haven’t seen them or spent time with them. So I’ll do it but I’m hopeless at it; I can’t get the co-ordination. I can get very frustrated and they think it’s hilarious.

(Benson Family Interview)

As seen in the previous excerpt, participants in a cross-gen PA partnership could have very different perceptions of the same cross-gen PA episode. Cross-gen Wii-gaming was an enjoyable, winning PA experience for Anne marred only by the lack of frequency of their games. In contrast, Carol was a reluctant participant. Cross-gen Wii-gaming was not something that she enjoyed and she did not initiate the games. Carol could be persuaded into playing games on the Wii with her children when she felt guilty about the lack of time she had given them. This element of cross-gen PA is explored further later in this chapter. Carol’s objective for cross-gen Wii-gaming was based on her sense of responsibility as a parent, possible guilt and the need to expunge the guilt. It is interesting to observe the interplay between Carol’s objective of paying back her children their bank balance of time through cross-gen PA and her dislike of the physical aspect of Wii-gaming. Her expectation for enjoyment was not being met and this ultimately affected her engagement in the PA. Although Carol entered into
the Wii game to achieve relational objectives, her dislike of this cross-gen PA overruled this objective and affected her engagement in it. In contrast, Alan simply declined to be drawn into Wii gaming. Any sense of parenting debt appeared to be inadequate motivation to draw him back into a game on the Wii with his children.

Parents used two approaches to try to accommodate both their relational and individual objectives during cross-gen PA. They either switched their focus completely to the relational element of cross-gen PA by consciously putting their individual objective for that PA on hold, or they compromised between the relational and individual objectives by trying to balance them out and meet elements of each within the cross-gen PA episode. These approaches were only described by parents and did not appear in the child data. This suggests that these approaches were either something that children were unaware of, or alternatively that the approaches were not part of the cross-gen PA experience for them and thus probably related to the parenting element of cross-gen PA for parents.

Parents described how they sometimes put their personal objectives for a PA episode on hold in the cross-gen PA context.

Colin (Parent): Walking on my own I go fast enough that I feel as though I’m getting exercise for my own health benefits. It’s nice walking with him too, it’s time away from the house where Mum is and you have to not swear and mind your manners. We can just cut loose, a bit of name calling, I can ask him who his girlfriend is. It’s good. When I take him I’ve accepted that it’s our time and I’m not going to be getting a good hard work out, it’s just valuable time together so I’ll walk slower. I view it as my exercise still but it has the added benefit of having Cory there that I can listen to or talk to and spend time with.

(Parent Interview)

In this excerpt Colin described accepting “that it’s our time” when his son joined him on his walk. This showed his conscious mental shift to focus on the relational elements of cross-gen PA. Colin switched his objective from his personal objective of gaining a “hard work out” to the relational objective of spending time with his son. Similar to
Colin, Denise made an effort to consciously shift her objective in the cross-gen PA context and the resulting associated different PA experience, involving lower intensity and duration of exercise.

Denise (Parent): I try to go, “OK this is a kid’s swim. We will stop at every lap if that’s what’s needed. I’m not here to burn calories, I’m here to be with my kids.”

(Parent Interview)

Denise was a keen swimmer who regularly swam with a group of adults. Denise showed how difficult adapting in the cross-gen PA context could be to achieve mentally, as she said “I try to go.” There was a sense from Denise that she did not always achieve her switch of objective and that may have affected her enjoyment of the subsequent cross-gen swimming episode.

Parents reported feeling that they ‘owed’ their children time (page 222) and this sense of debt appeared to leave some parents vulnerable to their child’s requests for cross-gen PA. For example, in the Benson’s Family excerpt (page 202), Carol, Anne’s mother felt “dragged” into playing the Wii to spend time with her daughters (Benson Family Interview). Carol was not a regularly active person. However, she used walking and gardening to increase communication with her children as she found it provided a relaxed context in which her two daughters would open up and talk (page 127). Carol’s drawing further illustrates the complex interplay between personal and relational objectives for cross-gen PA that could detract from or enhance a participant’s enjoyment of an episode of cross-gen PA (Figure 7.3).
Figure 7.3. Carol: Benson Family Interview.

Although Carol participated in cross-gen PA in order to meet relational goals, sometimes even this objective was insufficient for her to persist with cross-gen PA that she did not enjoy.

Carol (Parent): I was never a netballer so I don’t have that experience of playing it. I tend to do it at home and I should do it more but to be honest it is not a high priority for me to work on my ball skills even though I know
it is for her. Quite often I have some conflict like I really need to get the ironing done or whatever but she needs this so we’ll go and do that. I find that I get frustrated as I’m not very good at it so I’ll do it for a while with her but then we get contained. It might be the time of the day in which we get out there or the pair of them decides to have a fight and because it’s something that I’m not enthusiastic to do I go “OK we’re done”. I probably don’t do it the length of time that they would want.

(Benson Family Interview)

One of Carol’s objectives for cross-gen netball was to enable her daughter’s netball practice and in addition, she enjoyed the social interaction, which appeared to be Carol’s main objective during other types of cross-gen PA (e.g. walking). But there were other elements, such as ball skills and competition, which she did not enjoy. It appeared that the physical, competitive and time elements in both netball practice and Wii gaming could over-ride Carol’s relational objectives and reduce her engagement in cross-gen PA. Carol’s relational objectives did not sufficiently offset the negative elements of cross-gen netball.

Some child participants showed good insight into parents’ engagement. In the following excerpt children are discussing playing games with their parents.

Suzy (Child): Parents don’t really say “fun”.
Corey (Child): And they don’t really have fun either
Kate (Researcher): Can you explain that more?
Dena (Child): They get really bored really quickly.
Suzy: They don’t like the thing that we’re doing except we do.
Mary (Child): They only really enjoy it because we’re having fun. They’re happy that we’re happy.

(Child Focus Group 1)

The children recognised that their parents’ objective behind the activity was not necessarily to enjoy themselves but likely to be related to their parental role and they demonstrated some insight into how their parents used cross-gen PA as a vehicle to achieve other objectives within the child-parent relationship.
Thus far, it has been discussed that some parents switched objectives to adapt or compromise in a cross-gen PA context. Another strategy also emerged. Parents adapted cross-gen PA in order to meet both relational and individual objectives within a cross-gen PA context.

Kate (Researcher): Go at her speed,” can you talk about that experience? Greg (Parent): It’s alright. You just have to go with what she can manage. You can’t do much about it. The other thing I do is to go and do exercise by myself, then do exercise with her. So in effect do 2 sessions and I get my long period of physical exercise and one is at the intensity of me on my own and one is at the intensity with her. I do that with my wife too! So if I know I’m going biking after school with my kids, I’ll make sure that I go in my lunch break for a ride by myself. It’s easier; it means I can make sure that I’ve had enough. At times when I don’t do that and I just do exercise with them it’s just a day when I have to admit that I won’t get the intensity of exercise I would like. You just have to plan a bit, so if that is the case and I was hoping to do a higher intensity session well that’s when I’d try and do some intervals with them. I guess you just vary it a bit, you have to.

(Parent Interview)

Greg was able to adapt both his own individual exercise and his family’s exercise to ensure that his personal objective of high intensity PA or enough PA was met. He planned both his individual PA and cross-gen PA so that he could achieve his personal objectives during PA. Similarly, Hugo also adapted cross-gen PA to meet his needs and those of his child.

Hugo (Parent): Then we do a bit of ball throwing or that sort of thing or some more splashing around but I can only do that for so long before I feel I need that I have to go and do another 100m.

(Parent Interview)
Hugo’s adaptation was more opportunistic than Greg’s. Hugo interspersed swimming intervals between playing sessions with his Year 6 daughter in order to achieve his personal objectives and thus aid his enjoyment and sense of achievement during cross-gen PA. Both of the approaches described by Greg and Hugo resulted in the parents gaining short intervals of PA at an intensity that was of their choosing and thus enabled them to meet their individual, as well as parental (including relational), objectives when biking, swimming or running with their children.

In contrast, Debbie, a keen runner, found that adapting cross-gen PA to fulfil her individual objectives was more difficult. In the following excerpt she compared running on her own with running with her twelve year old son.

Debbie (Parent): I probably haven’t got what I would get if I did an hour run on my own, which would be headspace. I don’t see doing stuff with my 12 year old as exercise because I have my own stuff for that, it’s more of the time together and family time. You’re looking out for them, it’s different. It doesn’t meet my needs for exercise which are to clear my head, endorphins, it’s not hard enough. It’s just different, its relaxation.

(Parent Focus Group 1)

Debbie’s personal objective for her early morning runs was to gain “headspace” to enable her to clear her head. Debbie rarely went for a run with her son. Instead she did other activities with him, such as floating down the river and doing household chores. The excerpt suggests that whilst the social aspects of cross-gen PA were generally viewed favourably by participants, there were contexts when the increased social aspect of cross-gen PA hindered achievement of a participant’s individual objectives for PA. Thus it appeared that a parent’s individual objectives for a particular type of PA may be a factor in how or whether they were willing to adapt that PA to perform it in a cross-gen PA context. Sometimes parents switched their objectives to a focus on the relational elements of cross-gen PA or they tried to reach a compromise between both relational and individual objectives. Sometimes parents were unable or unwilling to compromise their individual objectives during cross-gen PA and this could affect engagement in cross-gen PA.
In the next section an element of cross-gen PA that was found to be a particular focus for children is explored. This element was about practising PA skills.

**I’m practising and I’m experimenting**

Practising and experimenting were elements of cross-gen sport that children were both enthused about and focused upon. In contrast, among parents, the element of cross-gen PA providing opportunities for their children to practise their skills was only met with enthusiasm, based on an understanding of their child’s practise requirements, by regularly active and ‘sport-focused’ parents. Some less active parents acknowledged and tried to meet their child’s need for practise but there was a sense that these parents could not match the enthusiasm or enjoyment of their child for this type of PA (page 205).

Children wanted the opportunity to practise skills in the cross-gen PA environment. Practising was distinct from (but often related to) the theme of learning from their parents. They described practising a sport that they enjoyed and participated in regularly. Although these children already had some skills in their chosen sports, they acknowledged that there was room for increasing proficiency in their skills and they were keen to gain rehearsal time with their parents.

Suzy (Child): Sometimes me, my Dad and sister, and sometimes my Mum, we go out to the front onto the driveway and we’ve got a hoop out there so we shoot. We’ve got this game where we’ve got a marker and we shoot from the line and then take a step back if we get it in. You keep stepping back until we’re at this crack and then if you shoot it in from there you win and the games over. I beat my sister a lot at that but not so much Dad.

Kate (Researcher): How do you feel about that?

Suzy: It’s really fun.

Kate: What’s fun about it?

Suzy: Because I’m learning to shoot from different lengths away from the goal and that helps a lot.

(Child Focus Group 2)
Suzy’s excerpt underlined the multiple elements that contributed to a single episode of cross-gen PA. These included the time spent with her whole family, or her Dad and younger sister, and the competitive elements which are explored later in this section. Yet, when asked to describe what was enjoyable about cross-gen basketball practice, Suzy’s objective was centred upon shooting practise. There was a sense from children, that the cross-gen PA context provided collaboration and engagement in their practising that was not replicated in other contexts in which the children practised their skills. These other context included for example, at school or in a coaching team environment where there were other children all concentrating on their own skill acquisition or disrupting others. In contrast, in a cross-gen PA context, the children felt that their parents (and siblings) collaborated with them and were engaged in the practice.

Yet, practising was rarely mentioned by parents and only active parents expressed enthusiasm for it. Greg was an example of this. He had played sport to a high level and therefore had some knowledge and experience in training and competing. He did not discuss any type of PA apart from sport, exercise and recreation, despite prompting from the researcher during the interview. Greg recognised that practising in a cross-gen PA context allowed children a different experience to that provided by participating in school or other organised sport.

Greg (Parent): If the child is getting some coaching from somewhere else a lot of it is just the repetition and the practice and that’s much nicer to do with a parent. Parents should be taking their kids out whatever it is, running, biking, tennis, football, whatever, and they should enable the opportunity for the kids to go and get the repetition that they need to practice their skills.

(Parent Interview)

Greg showed an appreciation and an enthusiasm for the role that parents could play with children in enabling them to practise their skills. Greg talked about skills in a broader sense than the children. He included running and biking as skills, whereas most children referred to practising ball and racquet or bat skills. He referred to repetition a couple of times in the excerpt, rather than teaching, which emphasised his
understanding of practising by suggesting that he was not trying to teach but provide practice opportunities. Greg suggested practising was ‘nicer to do with a parent’ than a coach. One of the possible reasons behind his suggestion was revealed by Liam who was very keen on his cricket.

Liam (Child): If you’re mucking around in the garden you might try something but you wouldn’t try and do something when you are playing in a team in a match because you might get out. When you’re playing seriously you can’t try new things but when you’re practising with Dad in the back yard you can because it doesn’t matter if you get out. You’re not scoring, you’re practising and you’re improving.

(Child Interview)

Liam described how practising cricket with his father in the garden provided him with the opportunity to try out new things in a context where it didn’t matter if the experiment went awry.

Liam (Child): In a team usually it would be more serious. Aiming for say the finals, but when you’re with your parents there’s no such thing as finals.

(Child Interview)

Cross-gen PA provided a different context from the more structured context of school or after-school sport and exercise. Cross-gen PA enabled children to experiment with their skills in a more relaxed and less performance-oriented environment.

Greg (Parent): They need to get the opportunity to practise in a different environment. Doing things with a parent is less structured, they can muck about, they can whinge about something being sore, stuff that they might not do in front of a coach. I think it is an environment where they feel a bit more confident, they get to try things out in an environment where they are confident.

(Parent Interview)
Greg shed further light on the nature of the context of cross-gen PA practising by suggesting it provided a unique context for his child and a safe, supportive setting in which to nurture experimentation in skills and behaviour.

In addition, the opportunity and challenge of playing against a more skilled opponent was an important aspect of cross-gen PA for many children. For example, Suzy (Child, Child Focus Group 2), when talking about playing basketball with her father, said, “I think it’s more fun if they can do something better than me and I just have to run that little bit harder to get it.” The challenge of playing against someone more skilled than her enhanced Suzy’s experience and enjoyment of cross-gen sport. For this reason, children also preferred to practice with a parent rather than with a younger sibling.

Pete (Child): I get to go as hard as I want to when playing ball with my parents but with Lance I have to go easy on him. I have to go easier a bit with Mum too, but I have to hold back more with Lance and it’s frustrating. … I have to hold back on Lance and go at his pace. My parents are more at my level than my brother but it depends how annoying he is being.

(Aitkin Family Interview)

Pete’s brother, Lance was two years younger than Pete. The previous excerpt underlined the complexity of the sibling PA partnership and how the emotional relationship between the siblings impacted their PA partnership. The child’s voice in this research suggests that the child’s experiences of undertaking PA with a parent in cross-gen PA were different to their PA experiences with other PA partners, providing different opportunities, for example, more optimised opportunities for practising their skills.

**Practising competing**

Practising in the cross-gen sports environment was not just about skills consolidation. For some parent participants it was also about practising the competitive elements of sport.

Greg (Parent): The whole point of going out doing sports with them is for them to develop their skills at particular things that you happen to do. And
one of those, if you go into competitive sport is being used to competing so I guess that’s just an extension of that, giving them that experience.

(Parent Interview)

Greg’s experience in participating in competitive sports meant that he viewed competing as a necessary element of sport skill acquisition and therefore he consciously provided his children with experience at competing. Parents who explained their approach to the competitive elements of cross-gen PA in this manner tended to be more regularly active than other parents and possessed enough skill in the particular sport to manage and control these elements.

Colin (Parent): I’m a bit competitive too. When we fence together we go at each other pretty well, he can hold his own well for his age. I don’t hold back because he would know and I don’t want him to feel that I’m taking it easy on him because he has a sense of pride. When he gets a point he’s earnt the point. But I’ll push him to what I think he will cope with, it’s no good just going at him and him just feeling that he’s being beaten all the time, that’s not going to help him grow, so I’m in the middle. I try to push him where he needs to be pushed but I don’t push him too hard. I have enough skill in fencing to be able to do that and also I know him inside out and I can tell from his body language and the tone of his voice where he is sitting at emotionally.

(Parent Interview)

Colin described how he was able to read his son’s non-verbal signs in order to push him hard enough to give him realistic practice at competing. Similarly to Colin, Greg also wanted his daughter to practice coping with competition, as part of the cross-gen PA experience.

Greg (Parent): When we play the shorter game, we’re a bit closer and we compete at that. She enjoys it. She takes it more seriously than me and although it’s only a practice at competing she definitely tries to win. I usually try and make it close because if you’re competing at something that you’re close at you get a better idea of what it is like to actually compete
rather than either win too easily or be thrashed too easily. I try and keep the score close, I think she’s aware of what I’m doing but she will still take a win as a win!

(Parent Interview)

Like Colin, there was an element of control and regulation in the cross-gen sport experience enabled by Greg. Greg would try to keep the score close to give his daughter the experience and practise of playing a close competitive game. However, he was not entirely sure whether she was aware of what he was doing. Jody, Greg’s daughter, also took part in the research, and described her perception of playing tennis as a family and with her father during her interview.

Jody (Child): I ask to play tennis because I like doing it. It’s one of my main sports so I want to practise it. If we’ve got time then we will go. So sometimes we play doubles and I play with my brother against my parents. My brother can be annoying and does not always encourage me. I play with just my Dad sometimes too. He encourages me and teaches me.

(Child Interview)

Thus, Jody’s focus when she described her experience of cross-gen tennis was practising her tennis skills, and not competition. Jody was interviewed prior to her father so it was not possible to ask her specifically about the short tennis games that Greg mentioned. Jody did not bring up competing in her interview and thus it appeared that it was not a focus for her. Towards the end of the interview the researcher asked Jody if she ever competed against her parents.

Kate (Researcher): Do you compete against your parents?
Jody (Child): We play tennis but it’s not really a competition, it’s good.

(Child Interview)

Jody, like many children in the research, did not view competing against her parents as an authentic competition.

This section of the findings has considered practising competing as an element of cross-gen PA and has shown that episodes of cross-gen PA that involved practising often
included one or more elements of competition. To aid clarity of the many elements that contributed to competition in the cross-gen PA context, pseudo-competition will be explored separately in the following section.

_Pseudo competing_

Competition in the cross-gen PA context encompassed several different elements. One element, the family PA pecking order, has already been considered in Chapter Five. This section covers two other perspectives on cross-gen PA related to competition: cross-gen PA competition was not considered an authentic competition by children and parents, and winning and losing.

Competitive elements of cross-gen PA generally appeared to be light-hearted. Eve (Child Focus Group 5) noted that, “my parents try to make me laugh, as it slows me down.” There was playfulness to Eve’s excerpt. Although a competition was taking place, it was not a serious competition. Rather, it was more of a game. Eve’s parents created a diversion, which added another fun element to her cross-gen PA experience. This was a common element of cross-gen PA competing described by both children and parents and there was a sense that the playfulness may have been an approach that parents used for a number of potential reasons: to soften the experience of losing; to enable competition despite inequities in skills or physical capacity; or, to enable parents to win but in a fun way. Eve’s excerpt demonstrated that parents cheating entertained child participants if done in the right way.

In general children appeared to consider that playing against their parents was not a genuine competition.

Eve (Child): Sometimes if we’re playing basketball, we see who can get the most scores in half an hour or something. But it doesn’t really matter who wins and loses, as it’s just against my Mum.

(Child Focus Group 5)

Eve suggested that the score in basketball against her Mum was not her focus for the interaction and that the competition didn’t matter. Nonetheless, whether the score mattered or not, trying to beat the parent was part of the endeavour and therefore part
of the experience for children in cross-gen sport. Darius used the competitive element of playing against his father to motivate himself.

Darius (Child): You just try to go better so you can beat them. It doesn’t change my enjoyment of it because it’s not really a competition. It’s just spending time together having fun.

(Child Focus Group 4)

Darius acknowledged that although scoring was a part of his cross-gen sporting endeavours, ultimately the score didn’t really matter because cross-gen PA wasn’t a real competition in his eyes.

Competitive elements were mostly only found in instances of cross-gen sport, exercise and recreation. But whichever type of cross-gen PA they occurred in, there was an underlying playfulness to the descriptions. For example, in the excerpt following, Hugo described cross-gen active transport with his daughter.

Hugo (Parent): As for my ten year old we’ll race to this post on the way home from school and sometimes she’ll beat me and then the next day I’ll pick up the pace a little hoping my Achilles doesn’t snap!

(Parent Interview)

Hugo was playing a game with his daughter. It was not serious; some days she won and some days she lost. Whether consciously aware of it or not, Hugo was doing something similar to Colin and Greg (page 213), providing his child with an experience of competing and experience of both winning and losing.

Not all families competed. Sometimes this was because of the child.

Hugo (Parent): My middle daughter has got some of that competitive instinct. She tries her hardest and that’s all I’ve ever expected her to do but she’ll be last or second to last at most of her races. The whole thing about Little Athletics though is it’s not about beating other people it is about you doing your personal best and I really like that about Little
Athletics; it’s against yourself. Now, as far as my eldest, she doesn’t even want to do even that. For her it is purely recreational and for me it was a learning curve of just letting her do that.

(Parent Interview)

Hugo was the father of three daughters. He had been very active during his childhood and was keen that his daughters were similarly active in their childhoods. Although his middle daughter was keen to play sports with him, his other daughters were not; and he admitted during the interview that this had perplexed him. However, it is clear that Hugo had learnt to adapt his cross-gen PA partnerships and his own naturally competitive instincts depending on which daughter he was playing with, in order to accommodate their individual needs and competitive levels.

Sometimes families did not compete with each other because the parent was not competitive. Margo, the mother of two daughters, the youngest of whom was in Year 6, did not compete because she was not a competitive person.

Keira (Child): I get competitive with my sis and we try and beat my Mum usually when biking and that usually happens. It’s pretty funny, we ride to Nan’s. It’s funny because we’re up there and she’s down there. I don’t think she’s racing but I am and it’s funny.

Margo (Parent): I just ride at my own pace! I don’t think we do get competitive. It’s not a deliberate thing; it’s just something that doesn’t happen because I’m not really a competitive type person.

(Croft Family Interview)

This is another example of pseudo competition as Keira competed against her mother even though Margo appeared completely unaware of the underlying challenge and therefore did not join in.

However, other parents decided not to compete with their children because they did not like the way that competition changed the cross-gen PA context.

Kate (Researcher): Does it ever get competitive with your kids?
Veronica (Parent): No. I find when they add in that competitive streak it just turns nasty. If we’re playing games or anything we’re just playing it. We’re not playing it to win, to be better than somebody else. I find it’s hard with kids of different ages, I don’t like them playing to win.

(Parent Interview)

Veronica was not an active person and did not take part in sport herself. Although she was supportive of her children’s PA, she did not consider that cross-gen PA was part of her role as a parent. In contrast to those parents who did consider it to be part of their role and described controlling the competitive environment of playing a game, Veronica simply excluded competition from cross-gen PA. Although the decision to compete or not has been explored as part of cross-gen PA, it should be acknowledged that parental control of the entire cross-gen PA context was an underlying element of many of the cross-gen PA experiences explored in this section.

The previous excerpt touches on the consequence of competing: someone wins and someone loses. This aspect of cross-gen PA is explored next.

**Winning and Losing**

Children experienced joy in beating their parents.

Ryan (Child): I like beating my parents, it makes me happy. It is exciting. I think my parents feel alright about it. They’ve probably gone easy on me. My Dad goes easy on me sometimes, so sometimes I win and sometimes I lose.

(Child Focus Group 4)

The children felt that winning was a fun experience. Ryan may have found winning exciting because he did not always win and so he had a sense of exhilaration when he did. Although Ryan realised that his Dad probably managed their cross-gen games so that he sometimes won and sometimes lost, this knowledge did not appear to detract from his experience of winning.

Parents also, described letting their children win on some occasions.
Hugo (Parent): When Mia and I do it. It’s “let’s go for it” and that adrenaline rush and we’re going to try our hardest to beat each other but we’ll say “well done” at the end of that. Sometimes of course being a father, you can’t win all the time! You have to give them a chance.

(Parent Interview)

Hugo did not allow himself to beat his daughter every time. He balanced his competitive instincts with his role as a father. Hugo controlled the cross-gen PA context to provide both winning and losing experiences for his daughter.

However, being allowed to win brought mixed emotions for some child participants.

Corey (Child): Sometimes they let you win because they want to see you happy.
Kate (Researcher): Are you aware of that? When you think they are letting you win?
Suzy (Child): You kind of notice.
Kate: How do you feel about that?
Corey: I get annoyed in a way; they should play the game properly.
Mary (Child): It’s more their reaction and I think do you not think that I don’t know or something. They should do it properly.

(Child Focus Group 1)

Thus, some children felt annoyance if their parents let them win because this meant the parents were not playing the game correctly and perhaps more importantly, the children did not appreciate their parents attempts to try and fool them.

Other children reported annoyance at losing, because of feelings about fairness.

Julie (Parent): Sometimes I like to remind them that I’ve been very fast in my life. We might have a little sprint somewhere just to remind them of that. Usually, it becomes a bit of parody with Lance, getting a bit ahead of him and then falling behind so I let him win.
Pete (Child): I don’t like it when you let me win. I don’t like it when she lets Lance win either. It’s not fair. It’s just because he’s little and younger. He finds it fun but I don’t. I like to win but not have it too easy. I don’t mind being allowed to win as long as there was some challenge in it. If it’s too easy it’s not fun. If it’s too hard it’s not fun either. When we’re playing a free for all soccer game, if you’re letting Lance win and I’m on a different team, he’s going to get ahead of me and that’s not fair.

(Aitkin Family Interview)

Pete accepted winning or losing, as long as he felt that he was challenged and that he felt he and his brother had been treated fairly.

In the following excerpt, Daniel described losing to his Dad and his Dad losing to him.

Daniel (Child): With Dad I like racing him, that’s great. With Mum, I try and race her but she usually beats me. It’s really fun racing Dad. He’s old and he’s 50. I know our yard better. I know where all the holes are so I go past them and he goes bumf into them. That slows him down because he has to get up out of the hole and then carry on. And I race my dogs. It’s really fun but sometimes I lose because I get distracted with our two dogs and then he overtakes me.

Kate (Researcher): How do you feel when you lose?
Daniel: Not very bad, it doesn’t matter. Your parents do a lot for you and sometimes you should be nice back and let them have a win.

(Child Interview)

Daniel’s focus in the above excerpt was on racing his father and showed that it was not just parents that let their partner win on occasions. His experience with his mother was quickly over-looked, possibly because it was a foregone conclusion and therefore not as exciting as the unknown result of racing his father. Additionally, he perhaps did mind losing continuously to his mother. Daniel had his route mapped out and knew how to get the best of his father but this was a cross-gen game in which their dogs participated, and they could alter the outcome. Daniel went on to say that when he lost
to his Dad they would wrestle and it is possible that this may have coloured his losing experience by providing him with a fun distraction. Thus, the focus of the cross-gen PA episode became their playing rather than the actual result.

Parents could have a bittersweet experience when they genuinely lost to their children. Although they appreciated witnessing their child’s progress, they rued their change of place in the PA pecking order.

Denise (Parent): I wouldn’t care probably the second time. The first time I’d go “oh no” and then it would be “oh well”. Then the second time will be just fine. But the first time I’d tell my friends “oh, do you know what happened today?”

Melanie (Parent): It would depend on what it was. If it was something you feel you’re really good at and then your kids go “wham”, [I think] “hello, hang on a sec”.

Denise: Actually the reverse can be true too where you say “oh my gosh they are so good at that”. You can’t believe they’ve done that at whatever age, that’s amazing. So it can be the reverse.

(Parent Focus Group 2)

In contrast, children did not think that parents minded losing in cross-gen competitions.

Daniel (Child): Parents don’t really mind being beaten, they are playing. Sometimes my Dad has rematch after rematch until he does beat me and then he says the others were practices or warm ups and that was the final. My parents are pretty fit so if anything it is us trying to keep up with them but that just makes me want to beat them more. I want to get up to them, I need to get faster.

(Child Interview)

Again, the focus of Daniel’s excerpt is on two people playing at competing, a pseudo competition. Daniel was aware of this and did not take his father’s multiple re-matches seriously. Similarly to many of the other parents in this section, Daniel’s father was
using cross-gen PA to enable him to provide winning and losing experiences for his son. In other words, he was using cross-gen PA as a vehicle to help him be a parent.

**Helping me to be a parent**

A key element of cross-gen PA for parents was that cross-gen PA enabled their parenting. For example, parents insisted that their child joined them in performing chores to contribute to their family and parents used cross-gen PA to role model healthy behaviour to their children. This section covers two further cross-gen PA perspectives, *helping me to balance my parenting bank balance* and *teaching and learning are a part of cross-gen PA*.

**Helping me to balance my parenting bank balance**

*Finding time* has already been explored within the cross-gen context (page 140). This section explores another aspect of time which emerged: a parenting bank balance relating to time spent with their children. In other words, parents appeared to keep track of the time that they spent with their children and they had an amount of time that they considered to be acceptable and sufficient. If a parent felt that he or she was falling short of this allotted time then they took steps to ‘pay in’ more time.

> Julie (Parent): There’s an element of the bank balance in a parenting role. How much time you think that you owe the kids to spend with them. I think I haven’t done much this week I really need to give them a bit more of my time.
>  
> *(Aitkin Family Interview)*

Julie monitored the amount of time she spent with her children and cross-gen PA was her preferred way to repay her ‘debt’ to them. Julie explained in her interview that she had a sedentary job. She was therefore keen to be physically active when spending time with her children.

> Julie (Parent): I think of it as time with kids, it is more directed at them and sometimes by them than me. It’s, “can we have a piece of your time Mum?”. More often than not I’d probably prefer to do a game of football than
Monopoly or something like that. If we can get outside I’m happier. I’m in my office or car a lot of the time. I want to get outside as much as I can.

(Aitkin Family Interview)

Julie took a practical, transactional approach to cross-gen PA. She acknowledged the time debt she felt she owed her children, in a very matter of fact manner, and was open to approaches from her children to spend some time with them in different types of cross-gen PA.

Julie’s excerpts also lent further insight into a participant’s requirement to find a PA to perform with their cross-gen partner that fulfilled their individual objectives for a PA. Playing monopoly with her children, which would also have met the criteria for spending time with her children and paying back her time-debt, would not have fulfilled Julie’s individual objective for PA. Monopoly was too much like her work environment: sitting and inside. Thus, cross-gen football or walking were ideal for Julie, as they allowed her to meet both her relational objective of balancing her parenting bank balance with her children and her individual objective of doing something physically active in an outside context. The desire for cross-gen PA to meet both relational and individual objectives was previously explored at the beginning of this chapter, in serving my objectives within our partnership. However, the concept of the parenting bank balance may assist in explaining why some parents performed a cross-gen PA that they did not enjoy.

Teaching and learning are a part of cross-gen PA

The teaching element of cross-gen PA drew diverse responses from parents; some parents relished the opportunity to teach whereas other parents reported that teaching could limit their enjoyment of cross-gen PA.

Colin (Parent): I’ve had experience in martial arts before and he’s doing the kickboxing. He’s pretty keen on it at the moment. We put the gloves on. We have a rumpus room if it’s not nice outside or out on the back lawn. We have punching bag out there too so we’ll go on that. He takes it quite seriously but he’s a lot smaller than me so I can’t take it too seriously. It feels good because I’m passing on information. Telling him things that I
know but also I think it’s important for him to be able to look after himself later in life.

(Parent Interview)

Colin relished his role of teaching his son martial arts. Colin and his wife had one child and he discussed during his interview how he “lavished” any spare time he had on his son. Colin’s objective for most of the cross-gen PA he performed with his son was about building and strengthening their father-son relationship (page 227), but the above excerpt had a different tone and a different objective. Colin was teaching his son what he knew about martial arts and perhaps, more importantly, how to look after himself later in life. There was a sense from Colin that he enjoyed this element of cross-gen PA. In contrast, Debbie’s excerpt below, held a different tone.

Debbie (Parent): Whether it’s cleaning or you are doing sport together, you never take your parenting hat off. So you might be teaching him about something or it’s an opportunity to talk about something. It’s not like when you’re doing physical activity with a friend who is on equal terms and you are sharing or you are getting something back. I mean you’re getting something back with your child but you see very much that you are taking the lead in terms of conversation or even in terms of being a bit in control because this is an opportunity to have some one-on-one. I guess it’s with yourself when you are exercising it is more for you and your need. With your friend it is a chat or time out. I don’t see it as time out when you are with your kids.

(Parent Focus Group 1)

Debbie felt the never ending responsibility of being a parent in cross-gen PA scenarios. She was a regularly active person but did not use cross-gen PA itself to gain PA for herself or her children, for reasons that became clearer later in the interview (page 195). She appeared goal orientated in cross-gen PA with her children, as though she needed to achieve something with them, and this contrasted with performing PA with a friend, where she used the term “chat” instead of “talk”. Debbie suggested that she did not use cross-gen PA to relax with her children in the same way as she used PA as a way to relax with her friends. It appeared that she felt some responsibility in taking the lead
and to run the cross-gen PA sessions so that she could achieve her objective for cross-gen PA, which was helping her to be a parent by teaching and talking to her children.

Parents’ experience of the parenting burden could be altered according to the type of cross-gen PA being performed. For example, in the following excerpt, Clare and Debbie appreciate that cross-gen active chores are more enjoyable than when they complete chores without their children’s participation. In this instance, the opportunity to teach during cross-gen PA was valued and made the activity less onerous.

Clare (Parent): If I’m doing it with him I have feeling I’m achieving something with him. Hopefully teaching him that everybody’s got to participate and hopefully teaching him a basic skill about how to clean you know. I suppose I’m feeling a little bit vindicated by the effort. If I was doing it on my own, a lot quicker but it’s not something I’d enjoy more. I don’t get a rush from it. I’m probably more efficient absolutely but doing it with him I do feel I’m giving him skills.

Debbie (Parent): Because you take on a parenting role. You take on a teaching role or a like a role model role. So it’s good, it’s a positive feeling, parenting thing.

Kate (Researcher): As opposed to on your own?

Debbie: Mundane, just got to do it.

(Parent Focus Group 1)

Clare and Debbie gained pleasure from teaching their children skills and role modelling. It appeared that Debbie was able to meet both her relational and individual objectives whilst performing cross-gen active chores. However, as we have already seen, this was not the case with cross-gen sport, exercise and recreation. Her relational objective was teaching her child with her parenting hat in situ, but it appeared that her individual objective for running was “headspace”, “endorphins” and a “hard enough” pace. Thus, Debbie’s personal objective during cross-gen running could not be met and limited her enjoyment of it. Debbie’s experience of cross-gen running also encompasses another element of cross-gen explored previously in Chapter Six: adapting. It is instructive to touch briefly again upon adapting here. Participants did not appear to mind the adaptations made during cross-gen active chores. For example,
Clare found that despite the reduced efficiency of performing chores with her son, she felt that the effort given to teaching was worth it. Thus the adaptations made were considered in a positive light. However, similar to Debbie, her experience could be different when it came to cross-gen sport.

Clare (Parent): If there’s a situation where skills are still being learnt. So for instance with tennis, it’s a little frustrating when they are still in learning mode. You are teaching and you still find yourself reminding them sportsmanship and all that sort of stuff. You’re not losing that parenting thing. But if it’s a situation where you just recreationally having a swim in the river or a swim in the back pool. Or going for a walk together because you want to and there is no teaching going on, you are just enjoying the moment. Yes it’s then very different. It’s different because you really are just enjoying each other.

(Parent Focus Group 1)

Clare found that different cross-gen PA episodes lent themselves to different parenting roles. The casual swim or walk led to a more relaxed experience than occurred in games of tennis, in which she was required to teach as part of her parenting responsibilities.

Children appreciated learning skills from their parents.

Ginny (Child): Gardening with Mum.
Kate (Researcher): Can you tell me about that one?
Ginny: It’s interesting.
Kate: Why?
Ginny: Cause you see lots of things and learn things.
Kate: What do you learn?
Ginny: I learn how to plant things and how to use different garden tools.

(Child Focus Group 2)

Learning how to use tools, for instance gardening tools as in the previous excerpt (or carpentry tools), was often mentioned as an enjoyable element of cross-gen PA by
children. In contrast, the parents’ version of ‘learning’ carried a different emphasis. They were not learning new skills from their children but rather gleaning information from their children about their lives. In other words, they were ‘learning’ with their parenting hat in situ.

Carol (Parent): I probably enjoy doing it more with the kids because I like my girls. I enjoy their company. I enjoy learning about their days.

(Benson Family Interview)

Carol described trying to include more walks with her daughters during the holidays as cross-gen walking enabled her to find out about what had been happening in their days. Carol used the word “learning”. She was precise in her need to find out about her girls’ days. The emphasis in this excerpt was about the parent listening and therefore learning about their child during cross-gen PA, in contrast to telling or talking to their child.

Thus, it may be seen that cross-gen PA helped parents in their parenting by helping them to spend time with their children and providing opportunity for them to teach their children important life skills. Teaching and learning about their child’s lives was an important aspect of cross-gen PA for many parents and there was a sense that it was the main objective behind many parents’ engagement in cross-gen PA episodes. In the next section the bonding elements of cross-gen PA are explored.

**Building an intense closeness through cross-generational physical activity**

Cross-gen PA provided a bonding experience which parents found could enhance their relationship with their child.

Colin (Parent): I find it really rewarding the time that we spend together. The physical activity is good for him, it’s good for me. But the time spent together and the relationship strengthening is the best bit.

(Parent Interview)
At the time of the interview, Colin had only one child, a son in Year 6. Colin revealed during the interview that he was determined to have a better relationship with his son than he had with his father and one of the ways in which Colin attempted to do this was spending time with his son performing cross-gen PA. Colin found cross-gen PA to be an effective relationship-building activity.

Cross-gen PA provided a context that enhanced child-parent communication. Parents sought out cross-gen PA because it gave something unique to their relationship with their child that other, more sedentary, activities could not provide.

Nicole (Parent): The kids feel close to you. The kids like you doing things with them. You can be close all the time but when you are close in play it is different. Everyone’s having fun together, laughing together, there is camaraderie, a closeness that is more intense than when you read together or watch a movie.

(Parent Interview)

When playing with her children in cross-gen PA, Nicole was able to achieve a connection with them on multiple levels: emotionally and socially, as well as physically. For Nicole and her family, cross-gen PA produced a togetherness that she felt they could not obtain by doing other, more sedentary, activities together. Nicole was an active person. She was a personal trainer and keen marathon runner and for her, and for most of the other parents interviewed, whether active or not, cross-gen PA provided a strong, and often unique, bonding experience, irrespective of the type of PA. Nicole described playing with her family but examples of the unique nature of cross-gen PA bonding were found through all types of cross-gen PA, including active chores (an example of cross-gen active chores providing an intense bonding experience is found on page 235, where Ava, a child, described unloading the dishwasher with her mother and valued the close private time it provided).

However, as has already been shown for one mother, Veronica, cross-gen PA was not a unique experience: “the conversations we have whilst walking are similar to the conversations we have at meal times” (Veronica, Parent, Parent Interview). Veronica acknowledged the importance of doing activities together as a family. But Veronica’s
experience of cross-gen walking was no different to her experience of other, less active pursuits. Whilst it is important to acknowledge that there may not have been a difference in quality in Veronica’s family between cross-gen PA and other activities, such as eating dinner together, it is also possible that Veronica herself was not aware of the differences and changes that took place during cross-gen PA. In contrast to Nicole, she was not an active person and she explained during her interview that she did not have time for PA. Unfortunately, none of the rest of Veronica’s family took part in the research. This would have enabled some other perspectives from Veronica’s family and may have shed further light on the experiences of cross-gen PA within that family.

Nicole’s and Veronica’s excerpts reflect the two extremes of the continuum of the bonding experience of cross-gen PA. Parents such as Nicole, noticed a difference between the intensities of bonding arising from cross-gen PA and sedentary pursuits. Those parents appeared to intentionally perform cross-gen PA with their children to gain those unique benefits of bonding and relationship strengthening with their child. In other words, cross-gen PA was an integral part of their child-parent relationship and part of their family’s fabric. In contrast, parents such as Veronica perceived cross-gen PA to be no different than more sedentary activities performed together and therefore cross-gen PA was no more important than undertaking other, less active pursuits together. Thus, cross-gen PA was not a feature of her relationship with her children.

Towards the end of her excerpt, Nicole compared cross-gen PA to reading together or watching a movie. She suggested that cross-gen PA built an intimate and loving harmony in her relationship with her children that she was unable to gain through any other activity. This was echoed by other parents. For example, Carol and Alan contrasted eating at the meal table to cross-gen PA and suggested that they found cross-gen PA to be conducive to relationship building by “creating threads of communication” that meal times could not replicate (page 128 and 136).

Children compared cross-gen PA to other contexts as well.
Ava (Child): I prefer doing stuff with my parents rather than just my brother and sister, I don’t know why but I like it when they join in stuff and not just sit down and watch.

(Child Focus Group 5)

Ava was very definite that she preferred her parents to join in. However, like many children, she found it hard to pin-point what it was about cross-gen PA that was more enjoyable than other contexts in which she was together with her parents.

Liam (Child): You kind of bond, you don’t really need to but you can get something out of it. It’s a bit different to doing it by yourself, it’s more social and it’s just to have a bit of fun with your parents. It’s important and I like it.

(Child Interview)

Liam was more explicit in identifying the nature of cross-gen PA. The impression gained from both Ava and Liam was that they noticed the depth of interactions between child and parent were much greater in cross-gen PA episodes than in other contexts they described.

Thus far, it has been shown that there was something in the experience of cross-gen PA that led to child-parent bonding. However, although the context and environment may have contributed to the experience, it cannot be said that those factors were unique to cross-gen PA, as many of them could be said to apply to sedentary activities such as reading, eating or watching TV together. So what was it about cross-gen PA that could lead to a greater bonding experience?

To grasp at the essence of the bonding experience of cross-gen PA would be difficult without consideration of the medium of the interaction: the PA. In the excerpt below, Colin described strengthening his bond with his son via cross-gen PA.

Colin (Parent): I want to keep that communication, that bond between us pretty strong for later on as he will strike some times in his life when he
needs to come home to Dad and talk about things so we need to have a good relationship. I didn’t have a good relationship with my father. I never felt I could go to him with any problem I had as a teenager or a young adult. So I don’t want to repeat that with him and doing things with him physically helps me establish that bond. Talking does not work so much. A lot of the time what you say goes in one ear and out the other, doing stuff is different, we enjoy our time together.

(Parent Interview)

Colin found that talking did not help him establish a bond with his son. In Colin’s experience, there was something in ‘doing stuff’ together that aided bonding and communication between Colin and his son. Colin and his son were communicating, but not verbally. PA was being used by Colin and his son as an amplified version of gesture, providing a physical conversation which created an emotional camaraderie that was difficult for participants to put into words, but most importantly did not require verbal communication to be experienced.

Some parents were aware that they were reading their child’s emotional status by watching the child’s body language during cross-gen PA. For example, Colin (Parent) said “I can tell from his body language and the tone of his voice where he is sitting at emotionally” (Parent Interview). Colin monitored his son’s body language and voice tone to judge his son’s emotional state when they were fencing together. These factors aided Colin in judging how hard he could push his son in their fencing bouts and challenge him, whilst still making it a positive experience for his son.

Although children did not explicitly state that they read their parents’ body language, some children may have unconsciously read the signs.

Rosy (Child): We go jogging on Saturdays at a lake and we go around the whole thing. Normally my Mum will just walk because she can’t keep up with us but she does swing her arms and sometimes I ride my bike.

(Child Focus Group 4)
Rosy’s description of her Mum swinging her arms appears to have conveyed to Rosy a sense of her Mum joining in the PA even though she may not have been able to keep up. Rosy might not be consciously aware of reading nonverbal signs from her Mum, like Colin was actively doing with his son, but nonetheless Rosy had interpreted her mother’s body language. Rosy’s Mum was reflecting back a similar posture and movement as the rest of her family and this portrayed to Rosy her Mum being in unison with her and her group, her family.

For many participants there was a sense of working towards a common goal, which created an atmosphere of cooperation, and in turn this created a feeling of togetherness.

Eve (Child): I’ve drawn Team Penning. Me and Mum are doing it together which is great, rather than me doing something and them just watching me. We talk on the way there in the car which is good. When we’re there we don’t talk much as there’s no time but it’s still good because we’re cooperating. It’s team work, that’s important.

(Child Focus Group 5)

Eve, who was in Year 5 at the time of the focus group, described working with her mother in the sport of “team penning”, being a pair of riders rounding up cattle into a pen. Eve described the experience of cross-gen team penning as team work. It wasn’t her doing what her mother told her to do; it was working together with her mother in a team. Although Eve’s excerpt was an example both of a more explicit goal and obvious teamwork, for many participants there was a sense that the performance of cross-gen PA provided both participants with a common goal, and that this common goal provided a sense of solidarity and togetherness.

Sue (Parent): I love the quiet time of walking when you catch up on news and share stories. In winter, we’ll often do a little walk around here and it’s a good opportunity to do a pleasant bit of exercise at the end of the day.

(Davis Family Interview)

Sue and her family used the end of the day walks to create shared family time. The equality implicit in Sue’s excerpt was conspicuous. The walk around the block was
for the whole family, to enable them to catch up on each individual’s news from the day.

Therefore, PA together, particularly in an outdoor setting, appeared to become an alliance between the child and parent. The context, including the movement and the outside environment had a modifying and equalising effect on the power distribution in the child-parent relationship. This was felt by participants, particularly children, even if other elements involved in the cross-gen interaction (such as who instigated it, who decided what the PA should be and physical mismatches) weren’t equal. Performing cross-gen PA created a feeling of togetherness, of comradeship, and thus was a bonding experience.

Harry (Child): I just relax and play with my Dad. He isn’t actually my Dad; he’s my step Dad but has earned to be my Dad for me because he plays with me. I like going to the pool with him because we have fun.

(Child Focus Group 3)

Harry was a very enthusiastic Year 5 participant in the third child focus group, and the only male in this group. Nonetheless, he was bursting with enthusiasm to talk about his experience of cross-gen PA and his drawing (Figure 7.4) and found it hard to sit still to await his turn. The children in this focus group decided to go around in order, in a circle, to talk about their drawings and Harry had to sit through several other children’s stories before it was his turn. The pleasure and the bonding that Harry indicated he gained from swimming and playing with his (step) father very obviously meant a lot to him. He was proud of, and relished the time he shared with his father. Harry’s father was demonstrating his commitment to, and care for Harry through cross-gen swimming.
Cross-gen PA also appeared to enable child-parent bonding through the opportunity it gave for private conversations. In particular, children appreciated having time with their same gender parent. Ava’s drawing (Figure 7.5) illustrates the value she felt from spending private moments with her mother, which she found in cross-gen PA.
Ava (Child): It’s a good time to talk and it makes me feel like I can ask her about anything. I get to spend one-on-one time with her. It’s important as it means we can talk about things that not everyone else needs to know about. I have a little sister and I don’t want her to hear everything. I talk about school and stuff.

(Child Focus Group 5)

Ava was unusual amongst child participants in depicting a household duty in her drawing and the opportunity to have a private conversation time with her mother was obviously very important to her. For Ava, emptying the dishwasher with her mother was not about the task. Rather, it was about precious private time with her mother. The phrase, “one-on-one” portrayed a sense of competitiveness and possessiveness in the excerpt which was directed towards her sister. The reasons behind Ava’s proprietary tone became clearer later in the focus group.
Kate (Researcher): Are there any other times that you find that you can talk to your Mum like that?

Ava (Child): When we are out riding together.

Kate (Researcher): Any other times?

Ava: Not that is private. We talk at the dinner table but my sister and Dad are there so it’s not private.

(Child Focus Group 5)

Ava’s second excerpt emphasised the importance of the time that she spent with her mother emptying the dishwasher and riding, as these were the only times, cross-gen PA times, that she felt she could gain private conversation time with her mother. Ava’s drawing with the bubble thoughts of, “I can spend more time with her” underlined the unspoken meaning and value attached to the phrase ‘spending time’ which was explored in Chapter Five.

Similarly to Ava, Liam sought out cross-gen PA as an opportune time for conversation with his father. In the excerpt below, Liam described joining his Dad to fetch the Sunday paper.

Liam (Child): Sometimes Dad will get up early in the morning and he’ll have his shoes on and I’ll ask him what he’s doing and he’ll say he’s going to the shops to get the paper and I’ll ask if I can come. It’ll be early in the morning on a Sunday usually and I just want to go for a walk. Sometimes we talk about sport or something like that. It’s a good time to talk because it’s laid back, you don’t have to stress about anything else so you get to talk about your thing. On Sunday nights we have dinner as a family but it depends where Mum and Dad are working the other nights. There are more people there and Mum and my sister won’t like talking about footy so the conversation will change. I like having time with Dad.

(Child Interview)

Liam was very focused on sport, and for most of his interview he talked about cross-gen PA experiences of playing cricket and AFL with his Dad and younger brother in the garden, where most of his focus was directed towards cross-gen PA enabling him
to practise his skills. However, in the previous excerpt, Liam’s description held a different focus and the physical aspect of walking is barely acknowledged. His focus when walking with his Dad was on his relationship with his father. Similar to Ava, Liam got to talk about things that mattered to him in private with his same gendered parent. He was bonding with his Dad and without interruption from the rest of the family.

Parents too, reported that finding private time with a child could enable not only private communication, but a different type of communication.

Colin (Parent): It’s different when we’re constructing it just the two of us. He lets the odd swear word go and I’ll let him get away with it whereas at the dinner table, it’s with his Mum as well, and she will not let him get away with that. When they are young they are “Mummy’s boys” and then as they get older Mum falls away and is more in the background and the exciting Dad stuff gets to happen. We’re in the exciting Dad stuff stage.

(Parent Interview)

Colin felt that the private cross-gen PA time enabled him and his son to develop a deeper bond in their relationship. He let his son get away with swearing, and in doing so they were sharing something that did not happen at other times, such as at the dinner table when his mother was present. Colin and his son shared cross-gen PA together that was very personal to them and that they both enjoyed. Colin’s focus throughout his excerpt was not on the PA, but on bonding with his son.

Cross-gen PA was similar to many other activities in that it provided opportunities to spend time together to connect and talk. But cross-gen PA was also different from other activities, as it enabled ease in connecting with cross-gen PA partners, which in turn enabled deeper and closer verbal communication.

Carol (Parent): I like it because it blows the cobwebs out but also I find the kids get really chatty whether I’m with one or both of them. Conversations will come up and it can be utterly nothing or they tell me things that have been bothering them at school. I find it’s a good opportunity to have that
time. The youngest especially can be more open to advice from me and her eldest sister on a walk than at other times. I personally find that it is easier for them to open up on a walk than if you go to their bedroom and try to chat. You can just see the shutters coming kerplonk down.

(Benson Family Interview)

Carol used cross-gen walking as an opportunity for her daughters to confide in her and each other. Cross-gen PA generated a context that not only promoted dialogue, it was also a context where her daughters were more amenable to advice.

Children were equally aware of the strength of cross-gen PA bonding and their increased vulnerability during it.

Rachel (Child): It’s when they are in a positive mind and they are willing to hear what you have to tell them.
Suzy (Child): I think parents think it’s easier to persuade you to do something when you are relaxed.
Kate (Researcher): What do you mean by that?
Suzy: It’s when they might be able to persuade you to do your chores.
Rachel: Or homework.
Ginny (Child): Or anything you don’t want to do.

(Child Focus Group 2)

Children experienced cross-gen PA as a good time to talk to their parents and a time when they were more likely to be heard, while acknowledging that they themselves were more vulnerable to suggestions from their parents. The excerpt above showed that although children had difficulty identifying what was different about cross-gen PA when compared to other activities, they had nonetheless noticed a difference both in themselves and their parents and this finding contributes to understanding of their enthusiasm for cross-gen PA.

Thus the sharing of PA between a child and parent in the form of cross-gen PA took place on many different levels and contained a multitude of elements. A continuum of sharing was found, such that a child and parent could share as little as simply
performing PA at the same time and in the same vicinity or as much as joyfully sharing a wide range of cross-gen elements, including emotional, social and physical experiences and interactions which could lead to a deep, transcendent bonding that for some was unique to cross-gen PA.

Summary of findings

It is clear that cross-gen PA was valued and mostly enjoyed by the participants. Cross-gen PA was viewed as an effective way to build and maintain child-parent and family relationships and cohesion. Many varieties of cross-gen PA partnerships were identified in the findings, both for child-parent relationships and across participating families. The wide range of cross-gen PA partnerships is demonstrated by the following examples from the findings:

- **Anne (Child):** Anne did not want to walk early with her father, as it was her one chance to sleep-in. She had several other early morning starts for her individual activities, including squad swimming and orchestra practices. However, she was keen to practise her netball with her mother whenever the chance arose.

- **Veronica (Parent):** Veronica found cross-gen PA to be similar to family dinner times. Her family would occasionally go for weekend family walks but in contrast to many of their other activities, cross-gen walks were opportunistic rather than planned.

- **Rosy (Child):** Rosy enjoyed walks and jogging with her family at weekends and during holidays. She valued going to the local park as it was just the four of them doing exercise together.

- **Melanie (Parent):** Melanie walked to the shops with her two children and performed cross-gen active chores with them for safety and quality checking purposes. She would run by herself, for individual PA. Her children had been invited, but chose not to join her.

- **Ava (Child):** Ava was possessive about her private time with her mother. Emptying the dishwasher and riding together were the only times she managed to secure individual time with her mother to talk about “school and stuff”.

- **The Davis Family:** Naomi (Child), Sue (Parent), and Dean (Parent) enjoyed sharing time together, particularly during cross-gen walks. The walks were a
healthy way to spend time together whilst catching up on everyone’s daily news.

- Liam (Child): Liam was very keen on practising his sporting skills in the garden with his father and younger brother. In addition, he liked to join his father’s early Sunday walk to fetch the paper, as it gave him the opportunity to spend time with his father and chat about his interests without the rest of the family being present.

- Greg (Parent): Greg had a planned approach to cross-gen PA. He aimed to facilitate sufficient PA for his children and time for them to practise their skills (including competing). When possible, Greg also used cross-gen PA as a means of achieving his own PA goals.

These examples of cross-gen PA partnerships illustrate the complexity and variability of cross-gen PA partnerships.

In summary, cross-gen PA was experienced across multiple concurrent social levels:
- the individual level, involving at least two participants, namely a child and a parent
- the level of the child-parent relationship
- the family level.

At each level, social, emotional, physical and contextual elements contributed to the experience of cross-gen PA. Chapter Five explored cross-gen PA on the family level. Cross-gen PA was influenced by the family’s fabric and the chapter explored how cross-gen was used as a vehicle by the family, particularly during holidays, for strengthening the family’s bonds. Chapter Six examined the cross-gen PA partnership as part of the child-parent relationship. In particular, the chapter considered the control and power within child-parent relationships and found that despite obvious power imbalances between the child and parent, the starting of cross-gen PA was co-constructed. Chapter Seven, the current chapter, explored cross-gen PA at an individual level. In particular, children’s focus on practising their sporting skills and parents’ use of cross-gen PA as a vehicle to enable their parenting were examined. The chapter concluded by exploring bonding, which was found to be an important part of cross-gen PA for both children and parents. In the next chapter, these findings will be discussed in relation to prior understandings of cross-gen PA as found in the literature.
CHAPTER EIGHT
DISCUSSION AND RECOMMENDATIONS

Introduction

The current program of research is the first to examine the complexities of cross-gen PA using a mixed methods approach. Data were collected from multiple sources and included both child and parent perspectives. By examining cross-gen PA in this way, the research has viewed the phenomenon of cross-gen PA through a social ecological lens, as a PA partnership. This is a pertinent approach, as published research has shown that large numbers of children and parents are not achieving the minimum levels of PA recommended in the current Australian guidelines for PA and so are not sufficiently active to maintain health (Active Healthy Kids Australia, 2014; Armstrong, Bauman & Davies, 2000; Australian Bureau of Statistics 2011). The findings provide practical insights into the cross-gen PA partnership, including examples of how and why children and parents engage in cross-gen PA in Australia. The two studies contained in this thesis describe the experience of cross-gen PA and the factors that influence engagement in cross-gen PA. The studies were guided by the following research questions:

Study One

1. What form does cross-gen PA take when performed by primary school aged (Years 4 and 5)8 children and their parents?
2. Do children and parents perform any components of their ‘general’ PA as cross-gen PA?
3. What factors influence engagement in cross-gen PA?
4. What do primary school aged children and parents like and dislike about cross-gen PA?

Study Two

1. Why do children and parents perform PA together?

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8 Due to the scheduling of Study One and Study Two over a two year period, the year groups of the child participants changed from Year 4 and 5 in Study One to Year 5 and 6 in Study Two.
2. What factors influence child and parent engagement in cross-gen PA?
3. What is the experience of cross-gen PA from both a child and parent perspective?

Overarching themes that emerged from a synthesis of the findings of both studies will be discussed in this chapter. These overarching themes challenge three assumptions found in previous cross-gen PA research. First, the assumption that the purpose of engaging in cross-gen PA is to undertake the PA itself (Pugliese & Tinsley, 2007). Second, that cross-gen PA involves only a uni-directional relationship, providing parental support to a child’s PA (Yao & Rhodes, 2015); and third, that parents are the gatekeepers of their child’s PA, including cross-gen PA (Gustafson & Rhodes, 2006). The themes discussed in this chapter are integrated in a unified model of cross-gen PA. After describing the model, strengths and limitations of the research are discussed. The chapter closes with recommendations and concluding remarks.

The experience of cross-generational physical activity

The program of research expands upon and explains previous work by Thompson et al. (2009), who found that parents considered cross-gen PA to be important, and Wright et al. (2010), who found that children wanted their parents to use cross-gen PA to help them in their PA. To date, no analysis has been undertaken that can explain why children and parents value cross-gen PA. Instead, previous literature has generally reported participants’ positive evaluations of cross-gen PA with scepticism, noting that participants may not engage in cross-gen PA regularly, and therefore cross-gen PA may not contribute to a child’s or parent’s total PA on a daily or even weekly basis (Dunton et al., 2013a; Thompson et al., 2009). Although the current program of research supports findings of previous research, confirming that both children and parents value cross-gen PA highly and that cross-gen PA may be an irregular occurrence in some families, it extends previous understandings by also providing reasons why participants value cross-gen PA. Notably, children and parents who took part in the current studies did not apportion the value they assigned to cross-gen PA based upon the frequency, duration or intensity of the PA but rather their assessment was based upon the generally positive effect it had on their child-parent relationship. In other words, cross-gen PA was often not about the PA at all. Thus, the current program of research has identified a lack of congruence between the reality of the
experiences of participants who engage in cross-gen PA and the strong PA focus of previous research suggesting achievement of PA is the primary motivator for cross-gen PA.

The drivers behind cross-generational physical activity

Cross-gen PA has many drivers, which include more than those previously reported of improving physical health (Poitras et al., 2016), providing parental support of child PA (Beets et al., 2010), or enabling parental role modelling (Pugliese & Tinsley, 2007). The current program of research found that many factors contributed to a participant’s intention to undertake cross-gen PA, including that cross-gen PA facilitated collaboration within the child-parent relationship and that cross-gen PA participants derived enjoyment from many different elements of the cross-gen PA context. Cross-gen PA was defined within the current program of research as a PA partnership. However, the PA partnership itself was rarely the focus for participants; rather, cross-gen PA was centred upon the child-parent relationship, which was in turn situated within a family. The central theme for this research was the generally positive influence that cross-gen PA could have upon the child-parent relationship, even though cross-gen PA partnerships were diverse and occurred within many different scenarios and contexts.

The survey study (Chapter Three) established that within the population surveyed, cross-gen PA occurred across all categories of PA, with active chores and sport and exercise as the two most commonly arising categories. The wide variety of contexts of cross-gen PA described by the survey respondents concurs with the findings of Dunton et al. (2013a, 2013b), who used accelerometer and GPS data to measure the wide variety of locations in which child-parent pairs engaged in moderate to vigorous PA.

The current studies demonstrate that the family is an influential part of cross-gen PA. Study One found that cross-gen PA could be initiated by other members of the immediate family, in addition to the child or parent, such as a sibling or another parent. The influence of the broader family on cross-gen PA was again found throughout the interview and focus group data. For example, in Chapter Five (page 130), Clare and Debbie related their traditions of family bike rides. And in Chapter Six (page 156)
Hugo discussed his wife’s less active approach to parenting, when compared to his own, and the impact he felt that had upon his daughters’ approach to PA, including cross-gen PA with their father. Thus, multiple cross-gen PA partnerships evolved within multiple family relationships, changing the cross-gen PA experience from *duet* to *chorus* and back again, depending on the context. Each child and parent could have more than one cross-gen PA partner and, likewise, a cross-gen PA episode may have included more than one parent or more than one child. Hence, the cross-gen PA partnership is not necessarily based upon a dyad (*a duet*) but may instead reflect a *chorus*, subject to multiple contributors and influences. The interchanging PA partnerships may even occur within one episode of cross-gen PA. For example, in Chapter Six (page 194) Greg described the complex planning involved in family bike rides. Greg related how he would start off on his own (*solo*), and then his family would join him (*chorus*), and next, Greg rode home with his youngest child (*duet*) whilst his wife and son continued on their bike ride (*duet*). In addition, a number of parents described interval-type PA taking place within cross-gen PA episodes, thus moving the experience from duet or chorus to short periods of solo performance (interval training) to achieve their desired personal PA intensity, before returning to duet or chorus. These findings underline the importance of examining cross-gen PA not only within the context of the child-parent relationship, but also within the much broader social context of the family.

The findings from this research also highlighted that cross-gen PA is a reciprocal partnership to which both child and parent contribute. Whatever configuration the cross-gen PA partnership assumed, it was an authentic partnership in which each partner influenced the cross-gen PA that occurred. Children acted on and influenced the cross-gen PA and family PA contexts in addition to being influenced by their parents and family PA contexts. Although finding reciprocity seemed obvious for those viewing cross-gen PA through a social ecological model such as Bronfenbrenner (1989), this research is the first to present findings that support this model. Increasing understanding of cross-gen PA and its role for the individual, in the child-parent relationship, and in the broader family unit, depends upon exploration of the multiple reciprocal influences that exist between children, their parents, the family, and the context.
Dunton et al. (2013a) suggested that cross-gen PA is important because it affords an opportunity for both children and parents to gain health benefits, whilst providing positive parental role-modelling of active behaviours. Previous literature has indicated that cross-gen PA is one aspect of parental support for child PA (Yao & Rhodes, 2015). However, the current program of research found that cross-gen PA amounted to much more than just fulfilling those roles, for both child and parent participants.

Cross-gen PA was about more than just physical health. As already stated, the data from Study Two showed that in many cross-gen PA contexts, the participants’ attention was upon their child-parent, or family, relationships rather than upon the PA itself. The prominence of the emotional and relational elements of cross-gen PA over physical health concerns and, in some contexts, over the physical experience, was found across a range of different contexts and throughout all categories of cross-gen PA. However, despite the emphasis on emotional and relational elements, the health benefits of cross-gen PA were not overlooked. Study Two (Chapter Five, page 126) found that the health benefits of cross-gen PA were an important, but nevertheless secondary, consideration for parents and children when they were performing cross-gen PA. Cross-gen PA was generally acknowledged by all participants as a healthy way to spend time together, thus adding to its appeal. Lupton’s (1994) observation that “health maintaining practices do not stand alone and above other practices in everyday life, but are incorporated seamlessly into the life-world of an individual” appears authentic when reflecting upon the findings reported within this thesis.

The current research confirmed the assumption in the PA research literature that cross-gen PA was used by some parents for modelling PA participation to their children (Belanger-Gravel et al., 2015; Brockman et al., 2009). Parents’ use of cross-gen PA as a parenting vehicle, including but not limited to providing parental support for a child’s PA, is discussed later in this chapter. However, similar to the health benefits of cross-gen PA, parental role-modelling of PA was a secondary benefit of cross-gen PA rather than their main objective. In the current research, it was evident that cross-gen PA was experienced across multiple concurrent social levels, including the individual level, the level of child-parent relationship, and the family level. At each level, the social, emotional, physical, and contextual experiences of children and parents contributed to a complex bi-directional phenomenon which therefore amounted
to much more than explicit parental role-modelling of a healthy behaviour. The role-modelling function of cross-gen PA has been examined in previous research, either in isolation or as one aspect of parental support (Cleland et al., 2011; Jackson et al., 2008). Some studies (Pugliese & Tinsley, 2007; Yao & Rhodes, 2015) have compared the amount of cross-gen PA performed (with or without other parental support factors) to a child’s total PA. As shown in the conclusion of the narrative literature review in Chapter Two, there is a general consensus within the literature that parental support is a positive contributing factor to a child’s total PA. The current findings build upon this previous research by identifying other elements that contribute to the cross-gen PA experience, thus extending understanding of the phenomenon of cross-gen PA and its influence on both children and parents.

The findings from the current research suggest that the emphasis of previous research on parental support of child PA and the role modelling contribution of cross-gen PA neglects other important contributions of cross-gen PA. The aspects of cross-gen PA that are most notably excluded are the emotional and social contributions of cross-gen PA. For example, findings presented in this thesis indicate that cross-gen PA may play an important role in the development of a person’s sense of identity and competence based on self-assessment of their own performance and capacities relative to others and through benchmarking within the family. That said, these findings do not negate the importance of measuring the dose of PA achieved in the cross-gen PA context given the dose-response relationship between PA and health and wellbeing (Warburton et al., 2006). However, the findings of the current study highlight a likelihood that other social, cognitive and emotional elements of cross-gen PA play important roles in the starting and participating in cross-gen PA. The findings also suggest that the benefits of cross-gen PA may extend well beyond the health benefits of being physically active, to include benefits for family relationships and cohesion, for individual well-being, for self-perceptions of competence, and for identity development. These possibilities, which are further discussed in subsequent sections of this chapter, indicate a need for future research and for PA guidelines to incorporate more than just consideration of the physical dose of PA that should be sought from cross-gen PA.

Findings from this program of research add to existing understanding of PA by providing a more detailed explanation about how children and parents influence the
cross-gen PA partnership. Both the child and parent influence, and are influenced by their interactions with each other within their social environments, in particular their family context. Child participant data shows their experiences of cross-gen PA were often focused towards having fun and gaining practice time in their chosen sports. In contrast, parent participant data shows a focus on their responsibility as a parent. However, that is not to say that children did not acknowledge the relationship building elements of cross-gen PA or that parents did not acknowledge that cross-gen PA could be fun or appreciate the opportunities it afforded for them to gain PA for themselves.

Building upon the preceding discussion and to further highlight the roles of both child and parent in the cross-gen PA partnership, child and parent voices, relating their respective experiences of the cross-gen PA partnership, will be discussed separately in the following two sections.

**Cross-generational physical activity is a unique partnership for children**

Cross-gen PA was a significant and unique PA partnership for children. The current research found that cross-gen PA provided child participants with valuable opportunities to bond and connect with their parents. One-on-one time with their same gendered parent was of particular importance to children of this age group. Child responses indicated that children believed that by engaging in the healthy activity of cross-gen PA, particularly cross-gen sport, exercise and recreation, the parent demonstrated to their child that they were important to them and were being cared for by them. The sense of being cared for has been identified as an element of bonding (Barber & Schluterman, 2008). The findings of the current research that relate to this concept of bonding are discussed later in this chapter. Although child participants appeared predominantly focused on the fun experiences that occurred in cross-gen PA, they also attached profound meanings and emotions to their time engaged in PA with their parent. This was evident even when performing menial tasks, such as when Ava and her mother emptied the dishwasher together, Ava (Child) felt that she could “ask her about anything” (Chapter Seven, page 235).

Cross-gen PA was a significant and unique PA partnership for child participants because it provided experiences that other PA contexts and partnerships did not provide. Child participants valued that cross-gen PA provided them with a safe
environment in which to practise and experiment with their sporting skills. Cross-gen PA was a context in which they felt safe to experiment, as it did not feel like ‘real’ competition to children and there was no pressure to score highly or to consider their team. The children revelled in being encouraged by their parents and their parents witnessing their progress.

Thus, the current research increases understanding of the child’s enthusiasm for cross-gen PA and provides insight to some of the possible elements behind a study by Maatta et al. (2014), who found that there was a positive association between cross-gen PA and a child’s self-perceived competence and attraction to PA. In previous research, MacPhail, Gorley and Kirk (2003) concluded that children preferred activities that emphasised fun, play and enjoyment over practice of their sporting skills. However, MacPhail et al.’s study was performed at an athletics club with children ranging from 9-15 years and thus the differences between the studies contexts may account for differences in findings between these studies. Considered together, the findings reported by MacPhail et al. (2003) and the current research findings illustrate the complexity of children’s PA experiences and demonstrate that the nuances of each different context can result in a different emphasis or focus for child participants.

Previous research (Coakley & White, 1992; Cockburn & Clarke, 2002) identified that lack of competence and skills are barriers to PA for adolescent girls in sporting contexts. These barriers may, in part, help explain the importance children in the current research placed upon the practise of their skills. The children in the current research were keen to practice their sporting skills in the encouraging and supportive context of their family. This context gave them greater confidence and opportunity to experiment than when they practiced at school or in a sporting environment. Therefore, practicing sporting skills in families could be used as an intervention to increase confidence and enjoyment in a skill before children are exposed to more public contexts. Cognitive evaluation theory, which is a sub-theory of self-determination theory, posits that both competence and autonomy are required to sustain or improve intrinsic motivation for a behaviour (Ryan, Williams, Patrick & Deci, 2009). To this end, cross-gen PA provides a very different sporting and practice environment to that of the school or sporting context and may influence not only a child’s intrinsic
motivation for sport but also for other categories of PA, including, for example, exercise.

Finally, it is worth considering another finding from Study Two alongside the above findings already discussed. Not all parent participants appreciated the uniqueness of the cross-gen PA partnerships and that the opportunities available for their children in cross-gen PA were not available across all PA experiences. Some parents thought that other PA partners, such as siblings could replace them as PA partners. The parent participants who held such a view were not regularly active themselves and therefore it is possible that their own lack of engagement in PA partnerships led to their lack of insight into the contrasting experiences and the value that children attached to the cross-gen PA partnership. These findings suggest that some parents and researchers may underestimate or not appreciate the social, emotional, or even physical, importance of cross-gen PA for their children.

**The parent’s voice in cross-generational physical activity was focused upon many aspects of parenting**

Parents used cross-gen PA as a vehicle to assist their parenting. Parent participants in the current program of research reported that cross-gen PA was used as a parenting instrument to enable parents to:

- connect to their children,
- pay back their children with time that they thought they owed them,
- enable their children to contribute to the household,
- teach their children how to work with other people,
- build their children’s resilience by challenging them in a controlled environment,
- role-model healthy behaviours,
- show their children how to incorporate PA into their lives,
- facilitate their children’s practice of sporting skills, and
- teach their children that PA is a valuable activity to participate in.

It is noticeable that not all of the reasons that parents participated in cross-gen PA were related to increasing their children’s participation in PA. Instead, many of the reasons
were about providing general parental support of their children. This differs from previous cross-gen PA research that emphasises parental support for PA only. This notion of using cross-gen PA as a way to assist parents to provide emotional and social support is a concept that has not been the focus of previous research in this area. This finding suggests an avenue for further research into cross-gen PA and for public health programs that promote both cross-gen PA and family-based cross-gen PA. In addition, it is important to note that the impact of the gender of the child was only noted by less active mothers in regards to finding PA which both they and their child could enjoy together.

Parental decision-making around the instigation of different categories of cross-gen PA was a novel and interesting finding of the current research. A different level of control was generally exerted by parents when they were instigating cross-gen recreation, exercise and sport, than when they were instigating cross-gen active chores. Parents facilitated children’s autonomy in deciding whether or not to participate in cross-gen recreation, exercise and sport, rather than obliging or pressuring them to engage in these activities. Parents offered their children a choice to join them in cross-gen recreation, exercise and sport which contrasted with their insistence regarding children’s participation in cross-gen active chores. Autonomy has been identified as a key aspect of self-determination theory (Deci & Ryan, 2000), in which it is proposed that parental support for child autonomy allows the child to take the initiative and enables the parent to follow the child’s pace of development and self-control. Therefore, it is possible that the contrasting approaches used by parents to instigate child participation in cross-gen recreation, exercise and sport, or cross-gen active chores were a reflection of the contrasting stages of development of the child’s autonomy, rather than one simply being autonomy-supporting and the other a more controlling parental approach. A child’s autonomy in instigating cross-gen chores may develop at a slower pace than their autonomy in instigating cross-gen recreation, exercise and sport. In the latter, there is an immediate reward of enjoyment in the PA and possibly a higher level of self-perceived competence in performance of the task, both of which have been found to increase perceptions of intrinsic control (Deci & Ryan, 2000). However, when coupled with the reduced enjoyment in cross-gen activites chores, the need for parental insistence was strong. Further research in this area may help parents to identify the most effective approaches to support their children’s
autonomy as they move through different stages of their development. Further research may also identify how children’s requirement for autonomy or for direction varies according to different PA categories and contexts, including cross-gen PA.

Cross-generational physical activity is an authentic partnership

In the current program of research, a novel finding was that children aged ten to twelve years are active and influential partners in cross-gen PA. Essentially, cross-gen recreation, sport or exercise was *co-constructed* through the interplay between child and parent. That is, children of this age group were not passive recipients of parental gate-keeping and support, as broadly assumed in the literature (Gustafson & Rhodes, 2006). This finding regarding the power and control that a child of this age group can exert over some aspects of the cross-gen PA partnership illustrates that it is necessary to include children’s voices in PA research. In previous PA research, the lack of children’s perspectives may have led to incomplete assumptions about how PA is experienced by children. For example, Rhodes et al. (2016) felt that parents were the “gatekeepers” of their children’s PA. The survey (Chapter Three) found that in some cross-gen PA partnerships (albeit a substantial minority) children were the main instigators of cross-gen PA, as a third of parent respondents reported that their Year 4 or 5 child was more likely to instigate cross-gen PA than them. The interviews also revealed further evidence of the critical influence that child participants exerted over *opening-the-gate* on episodes of cross-gen PA, and thus it is clear that parents are not the sole initiators of cross-gen PA. Cross-gen PA is not a uni-directional model of parent influencing child. Child participants’ instigation of cross-gen PA and their requests to join in their parent’s PA emphasise the relational focus of cross-gen PA and show the possible influence that some children have on a parent’s overall PA, in addition to their own. Thus, the current findings build upon those of Rhodes et al., (2010, p. 98), who concluded that “family PA is dependent upon the planning and regulatory capabilities of parents” by suggesting that family PA involving children of this age group is *also* dependent upon a child’s planning and regulatory capabilities.

It was not clear how long children in the current program of research had been offered a choice to join their parents in PA, or if they fully understood the implications of their choices. Many child participants acknowledged the health benefits of PA but previous qualitative research about parent and child perceptions (Years 2 and 5) of healthy
eating, activity and obesity prevention has found that health knowledge does not necessarily translate into healthy behaviour (Hesketh, Waters, Green, Salmon & Williams, 2005). The types of choice offered by parent participants were interesting. No participants gave examples of being offered or offering multiple PA choices. The choice offered by parents to children of this age group was a clear cut one, either to perform specific PA with them or not. Offering multiple healthy choices has been found to be more reinforcing of health choices in children of this age group (Epstein, Smith, Vara & Rodefer, 1991). However, it should be acknowledged that the choices offered to children in the study of Epstein et al. (1991) were between active and sedentary computer games, representing a very different context to that of the current research.

Contemporary children have been found to be active and influential members of the family in other aspects of family decision making (Flurry, 2007). Flurry (2007) argued that contemporary children are encountering decision making at an earlier age and found that they have a strong influence on their parent’s spending on products such as beverages, home décor, cars and home electronics. A number of different models have been developed to depict a child’s influence in the family. For example, consumer socialisation theory is a bi-directional model which proposes that through contributions to family decision-making, children learn norms, skills and knowledge pertinent to their functioning as consumers (Martens, Southerton & Scott, 2004). Socialisation theory has also been examined in the PA context but, as illustrated in the narrative literature review (Chapter Two), mostly in relation to a uni-directional model of influence. Parental socialisation of child PA has been examined in terms of the role played by various parental support behaviours, including cross-gen PA, and recent meta analyses have found a small to moderate positive association between parental support behaviour and child and adolescent PA (Pugliese & Tinsley, 2007; Yao & Rhodes, 2015). Only two papers (Belanger-Gravel et al., 2015; de la Haye et al., 2014) were identified in the narrative review (Chapter Two) to have examined cross-gen PA as a bi-directional relationship between a child and parent. Both studies based their research on social ecological models. Belanger-Gravel et al. (2015) used family systems theory which proposes that families are a unique social system with complex interactions between its members. Whereas de la Haye et al. (2014) used the communal coping model which suggests that family members will work together to address any
identified health threat, for example, inactivity. Together, their findings of bi-directional PA relationships between children and parents and the findings of the current program of research underline the need for further research and for public health programs to acknowledge and consider the critical influence that children may exert upon the health and well-being of their families, including through their influence on cross-gen PA and possibly other possible PA contexts.

**Building and maintaining relationships through cross-generational physical activity**

Cross-gen PA was viewed by participants as an effective way to build and maintain child-parent and family relationships. The current program of research builds upon previous research that has identified improved communication between children and parents as one of the benefits of cross-gen PA (Thompson et al., 2009), by providing additional analysis of how and why improved communication may occur. The current research found that cross-gen PA was used by child and parent participants to enable bonding and connecting of child-parent dyads and in broader family relationships (Chapter Five, page 131; Chapter Seven page 227). For many participants, it was the positive bonding and connecting experiences that cross-gen PA could provide that made cross-gen PA important and valued. The bonding experience was difficult for some participants to put into words, perhaps in part because the experience did not require verbal communication. For many participants, the bonding element was conveyed by the phrase “spending time together”. Previous research examining the child-parent relationships of school aged children and adolescents described models of “mutual attachment” (Kuczynski, 2003) and “connectedness” (Lezin, Rolleri, Bean & Taylor, 2004). In addition, family cohesion is defined as the emotional bonding that family members have with each other (Olsen, Russell & Sprenkle, 1982). Bonding and connectedness involve a reciprocal relationship. Parenting practices affect child behaviour and child behaviour influences parental responses (Boutell, Eisenberg, Gregory & Neumark-Sztainer, 2009). These models assert that the bonding that occurs between children of this age group and their parents involves an ongoing dynamic relationship with multiple components, including warmth, cohesion, communication, caring, monitoring and support (Barber & Schluterman, 2008; Lezin et al, 2004; Macooby & Martin, 1983).
The current program of research found that communication was enhanced during cross-gen PA; both child and parent participants suggested cross-gen PA was a context in which they were more likely to be heard. Yet, verbal communication was not essential for cross-gen PA bonding. Sometimes cross-gen PA experiences involved just silently sharing the PA; however, participants still perceived they bonded in these quiet contexts. There was something about the PA itself that helped participants gain a deep transcendent bonding experience, which some participants reported they were unable to gain in any other context. Thus, cross-gen PA can be a form of non-verbal communication. PA was the medium by which a sense of camaraderie and togetherness was achieved.

Bonding and connectedness are positively associated with indicators of health (Barber & Schlutermann, 2008). Boutell et al. (2009, p.309) suggested that “interventions aimed at strengthening parent-child relationship throughout adolescence may protect emotional health and prevent longer-term emotional consequences in young adults”. Affection, warmth, satisfaction and trust are found in child-parent relationships in which the connection is strong (Lezin et al, 2004). These attributes were found within the cross-gen PA partnerships in the current research, suggesting that cross-gen PA is an area to further explore as a means for promoting child-parent bonding. A link between bonding and PA has been found in previous research, with one study finding that the closeness of the child-parent relationship was positively associated with reciprocal PA support between the child and parent (de la Haye et al., 2014). The level of bonding between youths (11-13 years) and parents was found to be a moderator of youth and parental PA, significantly predicting youth PA (Dzewaltowski, Ryan & Rosenkranz, 2008). In addition, the level of family cohesion was one factor found to predict the level of PA in an older population of children, 13,246 American adolescents (mean age 15.5 years) (Ornelas, Perreira, Ayala, 2007).

Theories suggest that adolescents need to develop bonding (or relatedness) and autonomy (or individuation) alongside each other in order to become emotionally well-adjusted and independent but contributing members of society (Beyers et al., 2003). In addition to competence, bonding and autonomy are central to the self-determination theory of behaviour (Deci & Ryan, 2000). The findings of the current study suggest that cross-gen PA is a medium which builds and maintains child-parent and family
relationships by facilitating bonding opportunities between children and parents. Cross-gen PA may also support autonomous experiences in some contexts, such as exercising a participant’s right to choose to join in cross-gen PA or providing short intervals of self-selected exercise intensity in complex adaptions of cross-gen PA.

The relationship building elements of cross-gen PA are missing from the field of public health promotion. For example, a webpage published by the Australian Heart Foundation, [http://heartfoundation.org.au/active-living/active-families](http://heartfoundation.org.au/active-living/active-families), does not mention the positive impact of cross-gen PA on family relationships. Recently, Rhodes et al (2013) observed that focusing on the health benefits of child PA is likely to prove an ineffective approach for family-based interventions, because the mothers in their study scored extremely high on an attitude measure that suggested they were already convinced about the health benefits of regular PA for their child. Complementing these findings, the findings of the current research provide insight into the relational and emotional benefits of cross-gen PA. Comprehension of these substantial additional benefits of cross-gen PA, beyond just the physical health benefits, may inform future interventions or public health messages designed to encourage parent and child engagement in cross-gen PA.

**Comparison between generations is a part of cross-generational physical activity**

The current research found that both child and parent participants were aware of their ranking in their family’s ‘PA pecking order’. Cross-gen PA provided opportunities to benchmark between family members. Some child participants of this age group had already overtaken their parents in some types of PA and were eagerly monitoring and anticipating the day in which they may surpass them in other types. Parent participants showed mixed emotions in relation to the changing PA pecking order: they were appreciative and proud of their child’s achievements and rising rank but they were ambivalent about their own physical decline.

Comparative achievement against peers has been found to be a part of enjoyment for children in sport (Scanlan & Lewthwaite, 1986). A recent Canadian study found that adolescents (aged 13 – 20 years) who were more physically active than peers
recognised their higher PA level (Spurr, Bally, Trinder & Williamson, 2016). In the study conducted by Spurr et al (2016), social comparison skills were associated with increased levels of PA in both female and male adolescents. Although these studies indicated that children and adolescents compared themselves to their peers in PA contexts, this phenomenon has not been identified as an element of cross-gen PA before. The finding in the current research that children benchmark their performance against other family members during cross-gen PA raises the question of whether this element of cross-gen PA is influential for the participants. It is possible that benchmarking in cross-gen PA may play a role in developing both a child’s and parent’s identity in relation to PA, as Lavoie (1994) hypothesised that identity development is context specific. In a similar vein, social comparison theory, based on the work of Festinger (1954), explains social comparison as thinking about oneself in relation to other people in order to evaluate one’s own opinions and abilities (Goethals, 1986). Steinberg, Fletcher and Darling (1994) suggested that adolescents form their identities by renegotiating their place in the family. Thus, cross-gen PA may provide children and adolescents with the benchmarking opportunities necessary to alter their perceived standing in the family in relation to PA, and this may contribute to their identity formation and growing stature and autonomy within their families. In this way, cross-gen PA may influence both child and parent’s PA identities and this may, in turn, have an impact on their PA participation.

*The influence of the continuum of enjoyment*

Child and parent engagement in cross-gen PA was found to be complex in the current research, and the influence of the continuum of enjoyment was noticed throughout the cross-gen PA experience. The current program of research found that enjoyment was gained from many different elements of cross-gen PA, such as the PA itself, as well as from social and contextual elements. This finding is in keeping with results of other studies, which have identified that many different elements may contribute to a participant’s experience of enjoyment in PA (Craike, Hibbins & Cuskelly, 2010; Scanlan & Lewthwaite, 1986). The social aspects of PA have been acknowledged as elements of PA from which participants may gain enjoyment (Craike, Hibbins & Cuskelly, 2010) and Dishman et al. (2001) found enjoyment to be important for engagement in PA. However, there has been little detailed analysis of what social aspects of PA may contribute to a participant’s enjoyment. The current research
identified a number of novel social elements of cross-gen PA, from which participants gained enjoyment that had not previously been acknowledged in the cross-gen PA literature. These included child-parent bonding, family bonding, benchmarking to redefine the family PA pecking order, enabling children to practise their sporting skills, and observing and appreciating a child’s progress in their PA skills. Many of these novel elements are related to the emotional and relational elements of the child-parent relationship within which the cross-gen PA partnership takes place. In addition, the current research highlighted the unique nature of enjoyment for each individual, as many of the elements identified as enhancing enjoyment were also at times found to detract from enjoyment of cross-gen PA, both for the same participant when in a different context and for a different participant in a similar context.

Enjoyment of PA is an important factor to consider in all PA contexts, as it is an immediate reward for being active and therefore might help to maintain PA participation by providing an immediate reinforcement of that behaviour (Dishman et al., 2001). Enjoyment has been identified as one of a number of outcomes of PA for both children and adolescents (Sallis, Prochaska & Taylor, 2000), and for adults (Trost, Owen, Bauman, Sallis & Brown, 2002). Some researchers (Dishman et al., 2001; Sallis, Prochaska & Taylor, 2000) have recommended that PA should be fun and enjoyable. However, although many different models of enjoyment have been proposed, within the PA literature (Craike, Hibbins & Cuskelly, 2010; Scanlan & Lewthwaite, 1986) and in other contexts (Lin, Gregor & Ewing, 2008; Warner, 1980), there is no consensus about the definition of enjoyment. Nevertheless, there is a general agreement within all of the models that enjoyment involves positive affect, and it is from this perspective that the findings regarding enjoyment in cross-gen PA within the current research will be discussed.

The current program of research found that active chores and routine active transport activities could be enhanced by the company and conversation of a parent or child. In these scenarios, the focus of the PA often became more about the communication and the time spent together than the PA itself. Thus, both child and parent participants were able to shift their focus away from the routine elements of performing a boring task, to the social and emotional elements, thereby enhancing their overall experience. Using an external focus and shifting focus away from the physical experience of the
PA to other elements that may enhance enjoyment, such as concentrating on the environment or music, has been noted to be a strategy that PA participants used to enhance their experience of leisure time PA (Craike, Hibbins & Cuskelly, 2010). Thus, the current findings build upon previous research by suggesting that enjoyment can also be gained in the performance of obligatory cross-gen PA tasks too, by participants shifting their focus of enjoyment. Thus it is clear that enjoyment may play an important role in any category of PA and suggests that humans may have an innate need to seek some enjoyment from any PA experience. In addition, shifting focus to elements other than physical dimensions may be a strategy that can be employed to encourage increased PA and this is an underexplored idea within PA research and promotion.

In the current study, differences were found in the focus of child and parent participants during cross-gen sport, exercise and recreation. Children were predominantly focused upon achieving their individual objectives for PA, which included having fun and enjoyment. In contrast, cross-gen sport, exercise and recreation held a sense of parental duty for many parent participants.

To accommodate the additional aspect of parental duty, parental engagement in cross-gen sport, exercise and recreation appeared to hinge upon a complex interplay between each parent’s individual and relational objectives. In this context, an objective was an outcome that the parent valued with experiencing enjoyment being one of many possible individual objectives for cross-gen PA. Parent data revealed that cross-gen sport, exercise and recreation were not enjoyable experiences for all parents who engaged in them. Similar to the situation with cross-gen active chores and transport, a parent’s enjoyment in these types of cross-gen PA was not always their motivating reason or objective. Instead, parents used cross-gen PA to enable their children’s activities and ‘pay back’ their children the time and attention that they thought they owed them.

Unlike in the performance of cross-gen active chores and transport, when parents participated in cross-gen sport, exercise and recreation they did not always shift their focus to the social and relational elements of the cross-gen PA when the physical elements did not provide sufficient enjoyment. The current research identified three ways in which parents approached cross-gen sport, recreation and exercise. Some
parents adjusted their focus to the relational elements of cross-gen PA, thus putting their individual objectives, including enjoyment, on hold. Other parents sought a compromise between their relational and individual objectives, trying to balance them and meet elements of each within the cross-gen PA episode (e.g. performing running, biking or swimming intervals to ensure that adequate intensity of PA was reached for short periods of time). This latter approach often involved complex planning to achieve objectives in a balanced fashion, in contrast to just falling into step (page 189), and was only described by parent participants who were regularly active. Both of these approaches described above, were achieved by intentional shifts in focus made by the parent and there was a sense that shifting the focus of their enjoyment to the relational objectives was sometimes difficult to achieve. In the third approach, parents neither adjusted their focus nor compromised their own objectives for PA. The third, unintentional approach to cross-gen sport, exercise and recreation appeared to be the least successful for achieving engagement in cross-gen PA, as those parents reported that they rapidly ceased cross-gen PA engagement when barriers were encountered, such as when children argued. This approach was described by the least active parents and they indicated that their cross-gen PA participation occurred sometimes purely as a result of them perceiving a need to ‘pay back’ their children some time. In addition, these parents seemed to attribute their lack of enjoyment to the PA itself appearing to prioritise their individual experience of the PA over possible relational objectives.

Although parents also experienced less enjoyment when they compromised in order to take an intentional approach to cross-gen sport, recreation and exercise, in such circumstances their diminished enjoyment did not appear to affect their sustained engagement in cross-gen PA. It appeared that those parents who took one of the intentional approaches to cross-gen PA were not performing cross-gen PA solely for the immediate reward of enjoyment in the PA itself but rather they still gained some enjoyment and satisfaction by switching the focus of their enjoyment to social and relational objectives. Thus, these parents perceived that although cross-gen PA could be hard work, it was a worthwhile and valued activity to engage in with their children. Similarly, Rhodes et al. (2016) found that mothers who had difficulty translating their positive intentions to support their children’s PA perceived this experience to be unenjoyable and thus Rhodes et al. suggested that supplying a pleasant context may facilitate the closing of the mothers’ intention-behaviour gap. However, the current
research suggests that merely supplying a pleasant context in which to gain some enjoyment may not be enough if parents do not intentionally shift their focus of enjoyment from the physical aspects of the PA to alternative sources of enjoyment. In conclusion, public health messages to parents may require a more complex message about enjoyment to portray a more realistic picture of the difficulties and solutions to gaining enjoyment in the cross-gen PA context.

**Adapting to cross-generational sport and exercise**

The current program of research is the first to describe a number of constructive and practical ways in which cross-gen PA was adapted by participants to meet their varying needs and expectations, as well as describing the inherent difficulties and rewards of cross-gen PA. In the current study, some children and parents who participated in cross-gen sport and exercise were willing to dedicate significant time and to engage in substantial compromise and re-structuring of PA so that cross-gen PA occurred. The Survey (Chapter Three) found that many participants performed the same types of PA in other contexts as those they undertook as cross-gen PA. Interview and focus group data (Chapter Six) showed that both children and parents made comparisons between their different PA contexts. Many of the cross-gen PA partnerships were uneven. In the Survey (Chapter Three), cross-gen PA fitness mismatches were identified by the majority of parent respondents as limiting engagement in cross-gen PA. Participants had different levels of ability, endurance or speed, and therefore coming together in cross-gen PA often required adapting the PA for that context. Adaptations affected a participant’s experience of and subsequent engagement in cross-gen PA and were not solely physical. For example, parent participants who cherished thinking time and peace during solo PA found the increased social context of cross-gen PA difficult and this could lead them to dismiss its contribution to their total PA (page 195).

In the current research, participants used a range of adaptations to facilitate engagement in cross-gen PA. Adaptations could be simple, such as *falling-into-step*, during which participants either slowed down, sped up or found an intermediate pace to accommodate their PA partner. Falling-into-step appeared to be a common adaptation and was achieved with very little, if any, planning or communication. However, this approach was found to negatively affect some participants’ experience of cross-gen PA and this impacted their engagement in it. It appeared that *falling-into-step* was
sometimes unsuccessful in accommodating every participants’ objectives for an episode of cross-gen PA.

More complex adaptations were also reported, such as performing different types of PA together, for example a child riding a bike whilst a parent ran, or performing short intervals of solo performance before coming together again. These more complex adaptations often resulted in participants performing PA at their preferred intensity, before re-grouping and falling-into-step with each other. Those parents who described more complex ways to adapt PA to a cross-gen sporting or exercise context were regularly active. They planned cross-gen PA episodes to enable both participants’ objectives to be achieved and found ways to adapt cross-gen PA so it resulted in participants achieving individual physical as well as social and relational objectives. Further examination of why and how parents use these approaches may assist in the development of interventions that facilitate cross-gen PA and may be used to advise less active parents about different ways to approach an episode of cross-gen PA, in order to achieve greater success. In addition, it would be interesting to investigate if more complex adaptations of cross-gen PA have an effect upon children. For example, upon child self-efficacy or autonomy for PA, as the complex adaptations often involved short intervals where they were responsible for their own intensity of PA, before returning to the socially supportive context of cross-gen PA.

Factors that influence engagement in cross-generational physical activity

According to participants in the current research, time was the main resource required for cross-gen PA. More parent survey respondents agreed that a lack of time was a limiting factor to cross-gen PA than agreed on any other factor in the current research (Chapter Three). Other factors that some parent survey respondents agreed limited cross-gen PA included weather and temperature factors, cost, other children, and a fitness mismatch (page 79). These findings are similar to those of previous research conducted by Bellows-Rieken and Rhodes (2008), which have indicated that the most commonly cited barriers to PA among parents are lack of time and cost. However, it should be noted that the research of Bellows-Rieken and Rhodes (2008) examined parents’ PA in general, rather than cross-gen PA specifically. Time to undertake cross-
gen PA was found to be a focus of children as well as parents in the current research, as both an enabler of cross-gen PA during the holidays, and a barrier to cross-gen PA during the school term. In contrast to the findings of Bellows-Rieken and Rhodes (2008), the interview data indicated that cost of cross-gen PA was not a significant concern in the current study. Only one parent participant, Hugo, identified cost as a barrier to taking his family swimming (Chapter Five, page 148). Even in this instance it was a barrier that could be overcome, for example, Hugo described that he sometimes avoided the financial cost of entry and buying food at the local swimming pool by swimming at a nearby lake instead. Thus, in the current study, time, rather than money, was the main resource required for cross-gen PA.

During sporting seasons, after-school sport and cross-generational physical activity were competing for the same time period

The current research found that the time available to perform PA, in any context, appeared to be drawn from the same limited ‘allowance’ of time available to participants. Thus, during sporting seasons, after-school sport and cross-gen PA were competing for the same time period. The current research took place during the two-year period prior to the first Australian National report about PA and children and young people (Active Healthy Kids Australia, 2014). This report concluded that although many Australian children and young people took part in after-school sport, it was not enough to meet their overall PA requirements (Active Healthy Kids Australia, 2014). The current program of research adds to knowledge of how parents make decisions about their children’s after-school sport and cross-gen PA. Parents who thought they had nothing to offer their child, with regard to skills and experience in their child’s sport, tended to prioritise after-school sport above cross-gen PA. In contrast, parents who had some sporting experience and felt they had something to contribute to their child’s progress in their chosen sport attempted to facilitate both after-school sport and cross-gen PA throughout the sporting season. This latter approach provided children with a greater variety of PA contexts and experiences (Chapter Five, page 146).

In the current research, many parents perceived that after-school sport, consisting of a couple of practice periods each week and a couple of games each week, was enough PA for their children during the sporting season (page 165). However, Active Healthy
Kids Australia (2014) found that this level of sporting activity was not sufficient PA for children. After-school sport contains time spent in both sedentary and light PA, for example whilst listening to instructions or waiting for a turn (Active Healthy Kids Australia, 2014). A US study of 6 to 12 year old boys found that 52% of youth sport time (basketball, soccer and flag football, which is a junior version of American football without tackling to the ground) was spent in either sedentary or light intensity PA (Wickel & Eisenmann, 2007). Nonetheless, Wickel and Eisenmann (2007) found that children accumulated approximately 30 minutes more moderate to vigorous PA on sporting days than on non-sporting days. The current study adds to evidence that there is a mismatch between parents’ perceptions about what constitutes sufficient PA for children and recommended guidelines.

**Holidays were viewed as opportune time for family cross-generational sport, exercise and recreation**

In the current study, holidays were viewed by participants as opportune times for family cross-gen sport, exercise and recreation. The survey (Chapter Three) identified that holidays were times when cross-gen PA was more likely to occur. The interview and focus group data (Chapter Five) revealed that cross-gen sport, exercise and recreation appeared to be embedded in family time together, sometimes as part of family traditions, during holiday times. There was a general consensus that holidays held a different ‘feel’ to term time, with both child and parent participants noting a change in parents’ approach to cross-gen PA during holiday times. The frenetic pace of term time was replaced with a different tempo during holidays and that included time for cross-gen PA (Chapter Five). The change in tempo resulted in a greater tolerance towards accommodation of different speeds and physical capacities of cross-gen PA participants. Holidays were a time that families had a focus on re-grouping and bonding together. Some parents engaged in cross-gen PA with their children during holiday periods in order to ensure that their children gained enough PA between sporting seasons to maintain health and fitness but, as previously mentioned, this wasn’t their only objective. Thus, some parents were aware of the change in their child’s PA between school term times and holiday periods. Understandings about how, when and why parents use cross-gen PA to influence their children’s total PA are useful when planning health promotion campaigns and activities. As the current research provides the first detailed analysis of families’ engagement in cross-gen PA, the
findings provide public health practitioners and researchers with socially relevant information which may be used as a basis for future interventions for a wider population. Importantly, these findings suggest that researchers and public health practitioners should consider the impacts of term and holiday periods in future PA research and promotion.

A model of cross-generational physical activity

Inadequate PA is a significant public health issue in Australia (Active Healthy Kids Australia, 2014) and worldwide (World Health Organisation, 2005). To date, research and interventions have tended to focus upon individuals, with less attention paid to social and environmental contexts (Das & Horton, 2012). For example, research about cross-gen PA has been restricted to investigating the role of parental support factors for a child’s PA (Pugliese & Tinsley, 2007; Yao & Rhodes, 2015). However, the findings from the current program of research illustrate that parental support of a child’s PA is only one aspect of the complex co-constructed behaviour of cross-gen PA.

To assist in illustrating the impact that the findings from the current study add to the body of knowledge about PA, the findings have been used to generate a multi-phase model of cross-gen PA (Figure 8.1). It depicts one episode of cross-gen PA, and combines not only the physical elements of cross-gen PA, but also the emotional, relational and social elements for both child and parent, in an ecological model of cross-gen PA.
Figure 8.1. A model of cross-generational physical activity.
This section will detail the main components of the model (Figure 8.1):

- the context of cross-gen PA, including the family, time and finances,
- the influence of the continuum of enjoyment,
- starting,
- adapting,
- stopping, and
- experiencing.

The context of cross-generational physical activity: family, time and finances

The outer circle of the model, as depicted in Figure 8.1, represents the context within which every episode of cross-gen PA takes place. In this context, *family and time* are especially important, and *finances* are also relevant, albeit with a lesser impact upon an episode of cross-gen PA. Cross-gen PA influences and is influenced by the participants’ circumstances and relationships, and in particular the family context. In each family, multiple different cross-gen PA partnerships may occur, each with its own routines or traditions. Family traditions and routines, particularly during holiday periods, provide a context in which cross-gen PA is more likely to occur. Two contextual elements, both part of the family fabric, need to combine in order for cross-gen PA to occur. These elements relate to doing things together and being physically active. Although in some families one of those elements may be present, findings from this research indicate that without both, cross-gen PA will not occur.

Time is an enabler of cross-gen PA, particularly in holiday times, but it can also be a barrier, especially during the school term. Cross-gen PA competes with a child’s after-school sport, for the same limited allocation of time. Most cross-gen PA requires little, if any, financial outlay. Available finances may however, play a small part in some episodes of cross-gen PA by influencing the context in which they take place. For example, going to the swimming pool incurs financial outlay, whereas going to a lake to swim does not.

The influence of the continuum of enjoyment

The continuum of enjoyment impacts upon all aspects of cross-gen PA, from whether a participant or family chooses to engage in an episode of cross-gen PA to how and
why engagement in the episode stops (Figure 8.1). The continuum of enjoyment shapes the way in which cross-gen PA is performed, through the adaptations that participants make to enhance their enjoyment. It is experienced on a continuum ranging from “boring” and “unenjoyable”, through to “okay” in the middle, and to “exciting”, “fun” and “enjoyable”. The experience of enjoyment is not solely focused upon the physicality of the PA experience. The enjoyment of an episode of cross-gen PA may either reinforce the cross-gen PA habit or tradition in response to a positive enjoyable experience or weaken the subsequent perceived need for future episodes in response to a negative, unenjoyable experience.

**Starting**

Engagement in cross-gen PA depends on a participant’s view of their role in the PA partnership (Figure 8.1). Children consider that *PA is everyone’s responsibility* but they enjoy being encouraged and supported by their parents with cross-gen PA. Parents understand that during cross-gen PA they act as *role models* to their children. However, not all parents or children consider that cross-gen PA is part of normal parenting behaviour.

Cross-gen PA may be a *planned event* or an *opportunistic episode*. In either instance, one participant, either child or parent, *instigates* it and the other *responds* to the invitation or is persuaded to *join in*. Thus, starting of cross-gen PA is co-constructed through negotiation between child and parent. Children employ a number of strategies in order to instigate an episode of cross-gen PA, including: being opportunistic, asking their parents to do a particular types of cross-gen PA, bringing their siblings to increase pressure upon parents, and asking to join in with a parent’s PA episode. Parents tend to insist that children participate in cross-gen active chores as part of the child’s contribution to the family. In contrast, parents tend to invite their children to *choose* whether to engage with them in cross-gen recreation, exercise or sports. Sometimes children and parents *join in* a PA that their partner is already doing or is about to engage in. In these circumstances, children request permission from their parents to join in, whereas parents join in with a sense of assumed consent from their children. Further details are found in Chapter Six and Figure 6.1.
Adapting

Cross-gen PA is performed by two or more participants who may have differing levels of speed, endurance or skill in the chosen PA (Figure 8.1). Participants often perform the same PA in cross-gen PA and one or more additional contexts such as solo performance and therefore participants are sometimes required to make adaptations in the cross-gen PA context. Sometimes the cross-gen PA compares favourably and sometimes unfavourably to alternative PA contexts. The adaptations that participants make in order to perform PA together can affect their experience and engagement in an episode of cross-gen PA. Two types of adapting are identified in the model. *Falling-into-step* describes the participant slowing down or speeding up their pace to adjust to their PA partner. This adaptation is relatively simple to achieve but can affect engagement in cross-gen PA due to participants’ lack of enjoyment of this mode of participation. *Complex adaptations* occur in episodes of cross-gen PA in which parents adapt the experience to ensure that each participant is more likely to meet his or her personal objectives for the PA in the cross-gen episode. Complex adaptations involve, for example, participants performing short intervals of self-selected intensity before re-grouping and falling-into-step. Complex adaptations require planning and communication if to be achieved, in contrast to simple falling-into-step, which was often achieved without planning or discussion. Further details are found in Chapter Six.

Experiencing

Experiencing was chosen as the heading for this component of the model to emphasise that this component pertains to the overall general experience of an episode of cross-gen PA, rather than merely a particular temporal element, such as the starting of it. Thus, in the model of cross-gen PA (Figure 8.1), the experience of cross-gen PA is depicted as the central and largest feature of an episode, with bleeding borders indicating that the experience of cross-gen PA covers all of the temporal elements of an episode of cross-gen PA.

Participants balance multiple individual and relational objectives within every episode of cross-gen PA, including bonding, bench marking and being physically active, as well as a number of experiences that were distinctive to either the child or parent participants. Importantly, cross-gen PA is used to build and maintain child-parent and
family relationships through bonding experiences. Verbal and non-verbal cues are used to listen and read a PA partner’s feelings and emotions. Cross-gen PA promotes a sense of collaboration and sharing between participants, which is sought because of the benefits that may accrue to their relationship. Cross-gen PA enhances communication and gives children an increasing sense of equality with their parents. Cross-gen PA enables benchmarking between family members, which children eagerly monitor to see where they are situated in their family’s ‘PA pecking order’. Parents show ambivalence towards their own physical decline but mostly appreciate and acknowledge their children’s growing competence and athletic ability. The health benefits of being physically active are an important, but secondary consideration when performing cross-gen PA.

The model (Figure 8.1) identifies a number of experiences that are a unique focus for either child or parent participants and it is these experiences, along with the bonding experiences, that participants seek from cross-gen PA. Children predominantly focus upon the ‘fun’ aspects of cross-gen PA, alongside practising sporting skills and the experience of experimenting in a supportive and more autonomous context with their parents than other organised PA contexts allow. Parents use cross-gen PA as a parenting vehicle to assist them to support their children emotionally, socially and physically. Thus, cross-gen PA is used by parents to support their children’s PA but importantly parental support of children is not limited to just supporting PA while engaging in cross-gen PA. The final aspect of experiencing of cross-gen PA is that parents use cross-gen PA to spend time with their children because they use it as a way to pay back their children the time they feel that they owe them. Further details can be found in Chapter Seven and Figure 7.1.

**Stopping**

The stopping of cross-gen PA happens in a number of different ways (Figure 8.1). Cessation of an activity may result when a destination is reached or a task or routine is finished. Unlike starting, which requires co-construction, stopping only requires one participant to stop. The partner who frequently causes cross-gen PA to cease is a parent. Stopping is an element of cross-gen PA in which children have the least influence. Unlike with starting, child participants do not use any strategies to prolong parental engagement in cross-gen PA. *Lack of enjoyment and fatigue* are reasons for stopping.
cross-gen PA. In addition, parents may also stop cross-gen PA due to lack of time, other duties, perceived inadequacy of the activity, and sibling rivalry or fighting.

**The evolving nature of cross-generational physical activity**

The spiral arrow in Figure 8.2 (next page) indicates that the influence of an episode of cross-gen PA does not end when an episode of cross-gen PA ceases. Just as the physical aspects of cross-gen PA influence physiology, impacting physical and psychological health, so too the relational and emotional partnership aspects of cross-gen PA influence continued interactions within the family, and impact upon psychological, emotional and relationship well-being. Thus the spiral arrow starts in red to indicate the time and temporal aspects but finishes in the blue colour of experiencing. Cross-gen PA can create a sense of cohesion and family connectedness that participants may be unable to gain in any other context. However, if it is stopped prematurely, children may feel frustrated and angry and some parents experience the ending of an episode of cross-gen PA with a sense of relief. Thus, the outcomes from one episode of cross-gen PA may influence the next episode of cross-gen PA (or even next episode of PA for that individual). The influence on following episodes may be experienced as positive or negative; it may strengthen, weaken, or change routines and habits, and alter identities and norms. Thus previous cross-gen PA influences future relationships and PA partnerships, as cross-gen PA partnerships ebb and flow within the family context.
Figure 8.2. The evolving nature of cross-generational physical activity.
**Strengths and limitations of the program of research**

The program of research reported in this thesis is the first in-depth exploration of cross-gen PA, as a PA partnership between a child and parent. As exploratory research, it took a broad view of the partnership and included all categories of PA, providing unique insights into the different approaches children and parents took in different categories of cross-gen PA. The program of research used a mixed method design and the findings were synthesised to derive an ecological model of cross-gen PA. The studies were conducted with participants drawn from a single, geographically-defined region of Australia and it is acknowledged that this, together with the largely qualitative nature of the research limits the generalizability of the findings. The survey was limited by a small sample size, the use of self-report measures and the previously-noted self-selection of parent respondents who identified their occupation as ‘professional’. However, the approach employed and the associated in-depth investigations that comprised the program of research have been essential to elucidate the previously little-understood phenomenon of cross-gen PA, from both child and parent perspectives. The program of research has revealed new knowledge and deep insights that can valuably inform both future research and practice related to cross-gen PA. The reader will be able to make judgements regarding transferability of the findings to their own operating context, based on the detailed descriptions that have been provided of the settings, participants and research methods.

The order of the methods used in the mixed-methods design was an important strength of the exploratory design of the research. The narrative review (Chapter Two) revealed that little was known about cross-gen PA as a PA partnership, and thus the survey data provided basic information on how, when and to what extent both children and parents engaged in cross-gen PA within the selected geographic region. This new knowledge was used to inform the design of the subsequent qualitative, hermeneutic study. The use of a qualitative research approach resulted in the development of substantial new knowledge and a deep understanding of how and why children and parents engaged in cross-gen PA.

The mixed methods research design also revealed strengths and limitations of each study’s approach. One of the strengths of the survey approach was the larger number of
participants it was able to encompass, which enabled identification of key findings regarding participation in cross-gen PA at a population level. For example, the findings indicated children instigate cross-gen PA engagement in a substantial proportion of cross-gen PA partnerships and that cross-gen PA engagement was more likely to occur in families during holiday periods. However, children’s enthusiasm for cross-gen practising of their sporting skills was not a factor identified in the survey (Chapter Three). The survey found that parent respondents liked helping their children with their skill development, but child respondents did not explicitly mention in their survey responses that they liked practising their skills, and this was only revealed in the subsequent study involving interviews and focus groups. Subsequent examination of the survey results (Chapter Three) together with the findings from the qualitative study (Chapter Seven) suggested that child respondents might have had in mind their focus on skills practise when they wrote a specific type of PA, for example netball, in answer to survey questions about what they liked about cross-gen PA. This example highlights the difficulties of interpreting open answers from surveys as the meanings of responses cannot be readily clarified.

A further strength of the program of research is that it sought and considered both child and parent participant voices. This was important as the absence of child’s voice has been identified in PA research in general (Brunton et al., 2003) and little was previously known about how children viewed cross-gen PA. The qualitative study reported in this thesis was purposefully designed to enable children to initiate their own memory retrieval (Butler, Gross & Hayne, 1995) by asking them at the start to draw whatever they wished to depict about cross-gen PA while the interviewer did the same. The use of this activity at the beginning of the interviews and focus groups gave children important time to relive and retrieve both positive and negative elements of their experiences, thus providing a more inclusive and less negatively focused impression of the PA they were describing than other papers have reported (Stanley et al., 2012). The interviews with children were conducted at school. A key strategy involved the researcher engaging in the same drawing task as that which the children were given. This reduced the power disparity between the children and researcher and may have facilitated more comprehensive responses from the children.
The research data contained within the thesis reflects a specific point in time and both studies were performed approximately one year apart, in the same population. Thus, it is possible that some of the findings may now be less relevant due to the passage of time. However, consensus was found between the two studies in a range of areas, suggesting stability across the time periods within which the data were collected. Additionally, there is no reason to expect that family structures and the nature and experience of PA and cross-gen PA will have changed significantly since the research was conducted, or will change significantly in the next few years, and so it is likely that the findings of the research will remain valid for some time to come.

Finally, this thesis set out to examine cross-gen PA through an ecological lens, as a PA partnership. In doing so it examined cross-gen PA from both child and parent perspectives, considering the broader contexts in which it occurred, and concluded that the PA partnership was particularly focused upon the child-parent relationship within which the PA partnership takes place. However, the findings from the program of research also shed light upon the multiple variations of cross-gen PA partnerships within a family, including the finding that cross-gen PA did not always resemble a duet. Thus, future studies should consider further examining cross-gen PA from a broader perspective, considering the involvements of all family members, in order to increase understanding of the interplay between the multiple cross-gen PA partnerships that occur within families.

**Recommendations**

*Recommendations in relation to children*

The recommendations in relation to children are provided in Table 8.1. These recommendations are targeted at people who are working with children in PA. Formal recommendations to children were not considered an appropriate medium of communication to children.
Table 8.1. Recommendations in relation to children.

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Recommendations</th>
</tr>
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<tbody>
<tr>
<td>C1</td>
<td>Recognise that children contribute a unique voice to the cross-gen PA partnership. Recognise that a child’s experience of cross-gen PA is different to that of their parents. Thus, the parent’s voice, experiences and impact upon the cross-gen PA partnership should not be used as a substitute for the child’s voice and experiences.</td>
</tr>
<tr>
<td>C2</td>
<td>Acknowledge that children possess a sense of responsibility about their own PA, including cross-gen PA.</td>
</tr>
<tr>
<td>C3</td>
<td>Acknowledge the control that children have over their own PA, including cross-gen PA.</td>
</tr>
<tr>
<td>C4</td>
<td>Acknowledge and encourage reciprocal encouragement and support between children and parents during cross-gen PA episodes.</td>
</tr>
<tr>
<td>C5</td>
<td>Recognise that engaging in cross-gen PA provides an important opportunity for children to talk and bond with their parents and family, in addition to other health benefits.</td>
</tr>
<tr>
<td>C6</td>
<td>Recognise and promote cross-gen PA as an important time for children to practise and so develop their sporting skills.</td>
</tr>
<tr>
<td>C7</td>
<td>Develop and implement targeted education strategies that acknowledge the influence of child and parent PA and time upon cross-gen PA engagement including acknowledgment of the impacts of after-school sport and holiday times.</td>
</tr>
</tbody>
</table>

Figure 8.3 provides key messages from the program of research written specifically for children. The key messages have been written while reflecting upon the child participants in the program of research. Thus, the audience is children who are in late primary school years and early secondary school years in Australia.
Key messages for children

Children and parents have told us that doing physical activity together is important because you and your parents get to spend time together while doing something fun and healthy. They have suggested that it is a good time for you to chat and bond with your parent. Children have noticed that doing physical activity together makes parents more relaxed and better at listening. Children have told us that doing physical activity together is a good time to have a private chat with their Mum or Dad, even doing chores together, and parents help you finish the task faster!

Children have told us that it is everyone’s job to be physically active but that they enjoy the encouragement and support they get from doing physical activity with their parents. They have told us that they enjoy practising their sports with their Mum or Dad. Practising with their parents gives them a chance to experiment with their skills and means it doesn’t matter if the experiment goes wrong. If you agree with what these children have said, then tell your parent so they can understand why practising your skills with them is important to you. You might want to explain to your parents how practising with them is different to practising skills at school or in after-school sports or with other people, such as your friends or brother or sister. Sometimes parents don’t know that children like practising with Mum or Dad for these reasons, and that children use time practicing with their parents to build their confidence in their sporting skills.

If you ask your parent to do some physical activity with you and they are busy, see if together you can plan another time to do it. Holidays can be a great time to plan some physical activity with your parents, as often it is a time when you and your parent may have more time to spend together.

Figure 8.3. Key messages for children.

Recommendations to parents

Recommendations to parents have been written formally in Table 8.2, with informal key messages in Figure 8.4.
Table 8.2. Recommendations for parents.

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engagement in cross-gen PA</strong></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>Find opportunities to engage with your child in cross-gen PA as it can be an important vehicle for parents to connect with their child socially, emotionally and physically.</td>
</tr>
<tr>
<td>P2</td>
<td>Engage with your child in cross-gen PA because it is an important opportunity to bond and has been found to facilitate communication between child and parent.</td>
</tr>
<tr>
<td>P3</td>
<td>Engage with your child in cross-gen PA because it is a key way that you can facilitate your child’s engagement in PA.</td>
</tr>
<tr>
<td>P4</td>
<td>Engagement in cross-gen PA can be infrequent, particularly during the term time and sporting seasons. However, do not underestimate the value of even infrequent cross-gen PA for you and your family’s health and well-being. Plan PA that you and your child can do together during holiday periods or non-sporting seasons.</td>
</tr>
<tr>
<td><strong>Increase parental awareness of the child’s experience of cross-gen PA</strong></td>
<td></td>
</tr>
<tr>
<td>P5</td>
<td>Appreciate that cross-gen PA is a unique PA partnership for your child.</td>
</tr>
<tr>
<td>P6</td>
<td>Recognise that cross-gen PA provides children with a different, safe context in which to practise and experiment with their sporting skills and this aspect of cross-gen PA is important to children.</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Increase parental awareness of the impact of the cross-gen PA context on parent’s own enjoyment of the PA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>P7</strong></td>
<td>Recognise that parental enjoyment is key to parental engagement in cross-gen PA.</td>
</tr>
<tr>
<td><strong>P8</strong></td>
<td>Recognise the many different elements of cross-gen PA from which parents can gain enjoyment including: the relational elements, the context and the physical elements.</td>
</tr>
</tbody>
</table>
| **P9** | Increase parental knowledge of strategies other parents use to shift their focus away from the physical aspects of cross-gen PA if they are not enjoyable, or how episodes of cross-gen PA can be adapted to accommodate their PA needs as well as their children’s. Examples of these strategies include:  
  - performing different types of PA together e.g. running and cycling  
  - interspersing short intervals of solo performance into cross-gen PA |
Key messages for parents

*Cross-generational physical activity is a unique partnership for children*

Children have told us that the physical activity partnership they share with their parent is a unique partnership that cannot be replaced by other physical activity partnerships, such as the ones they may share with siblings or friends. It provides them with precious time with their parent and they have noticed that parents are more relaxed and better at listening to them during cross-generational physical activity. By doing something healthy with them, children have told us that their parents are telling them (non-verbally) that they are important and special to them.

Your child may use a range of strategies to try and get you to be active with them. It is important to appreciate that although this might not be what you want to do, there is a lot more happening than just their fun. They are bonding and connecting with you. They may even benchmark where they stand against you physically which may be important for their development as a physically active person. Cross-generational physical activity is also important to children because it provides them with a unique and supportive environment in which they can practise and experiment in their sporting skills. Children revel in you being a witness to their improvements and supporting them in their skills-practising endeavours.

*Cross-generational physical activity provides bonding and connecting opportunities*

Parents have told us that engaging in cross-generational physical activity provides a unique environment for you, as a parent, to bond and connect with your child because collaborating in a shared activity enhances communication opportunities. Parents may offer their child a choice to join them in physical activity. Children enjoy being asked and being trusted to make a decision regarding whether they will join you or not in your proposed physical activity. Parents have told us that they found cross-generational physical activity is a good strategy to use to get their child moving as they have observed that their child will often continue with more active play once cross-generational physical activity has ceased. Parents have told us that they get
less time to engage in physical activity with their children during the term time but they make a concerted effort to do more during the holidays by planning physically-active family outings.

*Parents gain enjoyment from many different aspects of cross-generational physical activity*

Doing exercise, sport and recreation with your child can affect your enjoyment of that activity, either positively or negatively. Parents have told us that they cope with a reduced enjoyment in a physical activity with their child by shifting their focus away from the physical experience of the activity and onto the benefits it provides to their relationship and bonding with their child. Parents have also reported that they plan cross-generational physical activity to ensure they can gain enjoyment from the physical aspects too. This is achieved in a variety of different ways including: performing different types of physical activity together, for example, one person running, the other cycling, or by participants performing short intervals of solo performance at their own pace before re-grouping together.

*Figure 8.4. Key messages for parents.*

**Recommendations for government and public health promotion**

The following recommendations are targeted at government and public health promotion (Table 8.3).

280
Table 8.3. Recommendations for government and public health promotion.

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engagement in cross-gen PA</strong></td>
<td></td>
</tr>
<tr>
<td>PH1</td>
<td>Recognise and promote the relational, emotional and cultural benefits that arise from cross-gen PA engagement. Recognise and promote that the values families attach to a cross-gen PA episode are not encapsulated in the physical measurements (frequency, intensity, duration and type) of an episode.</td>
</tr>
<tr>
<td>PH2</td>
<td>Promote to parents the benefits and experiences of cross-gen PA from a child’s perspective (Table 8.1 and Figure 8.3).</td>
</tr>
<tr>
<td>PH3</td>
<td>Recognise and promote the role that both children &amp; parents play in the instigation of, and engagement in cross-gen PA.</td>
</tr>
<tr>
<td>PH4</td>
<td>Promote cross-gen PA as a parent support vehicle to provide emotional and social support in addition to supporting a child’s PA.</td>
</tr>
<tr>
<td>PH5</td>
<td>Recognise and promote the importance of cross-gen PA in families, acknowledging that although engagement is sometimes infrequent, it is still valuable.</td>
</tr>
<tr>
<td><strong>Acknowledge the influence of the continuum of enjoyment on engagement in cross-gen PA.</strong></td>
<td></td>
</tr>
<tr>
<td>PH6</td>
<td>Promote a nuanced and realistic message to parents about enjoyment during cross-gen PA. Acknowledge the sense of duty felt by some parents and difficulty some face in gaining enjoyment from cross-gen PA.</td>
</tr>
<tr>
<td>PH7</td>
<td>Develop and provide education strategies aimed at parents to promote changing their focus of enjoyment from physical aspects of cross-gen PA to relational aspects of cross-gen PA.</td>
</tr>
<tr>
<td>PH8</td>
<td>Promote different ways in which families of different physical capacities adapt PA to the cross-gen PA context. Examples are provided in Table 8.2 and Figure 8.4, and discussed in depth in Chapter Seven.</td>
</tr>
<tr>
<td><strong>Provide different messages targeting cross-gen PA between holiday and term time periods</strong></td>
<td></td>
</tr>
<tr>
<td>PH9</td>
<td>Acknowledge and promote time as the main resource required for cross-gen PA and promote the advice that parents should take every opportunity, even if infrequent, to engage in cross-gen PA. Advise parents that opportunities for cross-gen PA might be greater in holiday periods.</td>
</tr>
</tbody>
</table>
Recommendations for future research

The following recommendations are targeted at physical activity researchers.

Table 8.4. Recommendations for future research

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Measure and research all the benefits of cross-gen PA: social, emotional and cultural benefits as well as physical and psychological, in order to provide a holistic understanding of cross-gen PA.</td>
</tr>
<tr>
<td>R2</td>
<td>Future research of cross-gen PA should consider the phenomenon as a bi-directional relationship, acknowledging the influence of child participants.</td>
</tr>
<tr>
<td>R3</td>
<td>Be cognisant of the impact of child after-school sport and term time and holidays on child and parent engagement in cross-gen PA when investigating cross-gen PA in research.</td>
</tr>
</tbody>
</table>
| R4         | Future research questions. There are many research questions arising from this program of research. Some key research questions include:
  - Can the findings of this research be replicated in other populations of Australia and internationally, or are they specific to the regional population studied?
  - Are the factors and experiences identified in this research unique to this age group of children and parents? How does the age of the child and structure of the family affect the cross-gen PA partnership?
  - Is engagement in cross-gen PA affected by promoting factors other than physical well-being? For example, would promoting the relationship benefits of cross-gen PA, such as bonding and improved communication, enhance engagement in cross-gen PA?
  - Can interventions directed at informing a parent about shifting their focus of enjoyment from the physical to relational experience of cross-gen PA increase a parent’s enjoyment and subsequent engagement in cross-gen PA?
  - Can interventions directed at informing families about various ways to adapt PA to the cross-gen PA context impact engagement and enjoyment of cross-gen PA?
  - Does cross-gen PA play a role in a child’s PA identity? |
Concluding reflection

The aim of this thesis was to deepen current understanding of cross-gen PA from the perspectives of primary school-aged children and their parents and examine factors that influence engagement in cross-gen PA. The research has addressed key gaps in knowledge about cross-gen PA, challenged assumptions found in previous cross-gen PA research, and presented a social ecological model of cross-gen PA as a PA partnership.

Currently the nuances and complexities of the emotional and relational experiences of engaging in cross-gen PA are rarely examined in the literature beyond simplistic conceptualisations of enjoyment or having fun. The inclusive approach employed in this program of research deepened understanding of the emotional, relational and physical experiences of cross-gen PA. In particular, the experiences and intricacies, both positive and negative, of the adaptations necessary in order to engage in a PA partnership were elucidated. Physical inactivity continues to be a significant global issue. Can we afford to continue with the narrow individual and physically focused lens through which cross-gen PA has been viewed. Or should we challenge the narrow approach to promote the reality presented in this research of a more holistic model?

The researcher began this research journey with a curiosity about how and why families engaged in cross-gen PA. The research journey, using mixed methods, has challenged her as a researcher and transformed her understanding of the complexity of both the research process and cross-gen PA. In particular, balancing the voices of two populations from a naïve, non-health professional perspective was a demanding but rewarding part of the journey.

As the child’s voice and experience has been the previously unnoticed and undocumented voice within cross-gen PA and PA in general, it appears fitting to finish the thesis with two excerpts: one from a child participant and one from a writer reflecting upon his childhood experiences of cross-gen PA. Liam’s excerpt demonstrates the complexity of a child’s experience of cross-gen PA. It encompasses many of the aspects of cross-gen PA
from a child’s perspective: the power-imbalance, practising sporting skills and the significance of using cross-gen PA to bond with his father.

Liam (Child): I play with my Dad and my brother. I usually ask Dad if we can play cricket and sometimes he’ll put it off for a bit, ’til later in the day. I don’t really mind waiting as I can play by myself bowling against the trampoline. It’s a social game so it’s not competitive, we don’t keep score. You kind of bond, you don’t really need to but you can get something out of it. It’s a bit different to doing it by yourself, it’s more social and it’s just to have a bit of fun with your parents. It’s important and I like it.

(Child Interview)

Brian Andreas, in his book, Travelling Light: Stories and Drawings for a Quiet Mind (2003) hints at the physical differences experienced when engaging in cross-gen PA whilst encapsulating some of the meaning and emotion for a child:

You may not remember the time you let me go first.
Or the time you dropped back to tell me it wasn’t that far to go.
Or the time you waited at the crossroads for me to catch up.
You may not remember any of those, but I do and this is what I have to say to you:
“Today, no matter what it takes,
we ride home together”.

Brian Andreas
REFERENCES


APPENDICES

Appendix A

Ethics approval letters

Study One
Study Two
Variation to Study Two
19 August 2012

Ms Kate Freire
School of Community Health
Charles Sturt University
PO Box 789
Albury NSW 2640

Dear Ms Freire,

Your research proposal entitled “Cross-Generational Physical Activity: exploring the experiences of parents and primary school aged children” has been reviewed by Charles Sturt University’s (CSU) Human Research Ethics Committee (HREC).

The CSU HREC operates in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Research Involving Humans.

I am pleased to advise that the project meets the requirements of the National Statement; and ethical approval for this research is granted for a twelve month period from 19/8/12.

The protocol number issued with respect to this project is 2012/126. Please be sure to quote this number when responding to any request made by the Committee.

Please note the following conditions of approval:

- all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
- you must notify the Committee immediately in writing should your research differ in any way from that proposed. Forms are available at http://www.csu.edu.au/data/assets/word_doc/0010/176833/elhc_annrep.doc;
- you must notify the Committee immediately if any serious and or unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website as above;
- amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;

PRA

www.csu.edu.au

CRICOS Provider Numbers for Charles Sturt University are 00104F (NSW), 01917G (VIC) and 025808 (ACT). ABN: 83 057 798 551

301
• if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
• you are required to complete a Progress Report form, which can be downloaded as above, by 19/8/13 if your research has not been completed by that date;
• you are required to submit a final report, the form is available from the website above.

YOU ARE REMINDED THAT AN APPROVAL LETTER FROM THE CSU HREC CONSTITUTES ETHICAL APPROVAL ONLY.

If your research involves the use of radiation, biological materials, chemicals or animals a separate approval is required from the appropriate University Committee.

The Committee wishes you well in your research and please do not hesitate to contact the Executive Officer on telephone (02) 6338 4628 or email ethics@csu.edu.au if you have any enquiries.

Yours sincerely

Julie Hicks
Executive Officer
Human Research Ethics Committee
Direct Telephone: (02) 6338 4628
Email: ethics@csu.edu.au

Cc: Dr Rodney Pope, Associate Professor Julia Coyle and Dr Simone O'Shea
10 July 2013

Ms Kate Freire
School of Community Health
Charles Sturt University
PO Box 789
ALBURY NSW 2640

Dear Ms Freire,

Thank you for the additional information forwarded in response to a request from the Human Research Ethics Committee (HREC).

The CSU HREC reviews projects in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Research Involving Humans.

I am pleased to advise that your project entitled “Cross-Generational Physical Activity: exploring the experiences of parents and primary school aged children” meets the requirements of the National Statement, and ethical approval for this research is granted for a twelve-month period from 10 July 2013.

The protocol number issued with respect to this project is 2013/127. Please be sure to quote this number when responding to any request made by the Committee.

Please note the following conditions of approval:

- all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
- you must notify the Committee immediately in writing should your research differ in any way from that proposed. Forms are available at: http://www.csu.edu.au/__data/assets/word_doc/0010/176833/chrc_annrep.doc (please copy and paste the address into your browser);
- you must notify the Committee immediately if any serious and or unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website as above;
- amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;
• if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;
• you are required to complete a Progress Report form, which can be downloaded as above, by 16 May 2014 if your research has not been completed by that date;
• you are required to submit a final report, the form is available from the website above.

YOU ARE REMINDED THAT AN APPROVAL LETTER FROM THE CSU HREC CONSTITUTES ETHICAL APPROVAL ONLY.

If your research involves the use of radiation, biological materials, chemicals or animals a separate approval is required from the appropriate University Committee.

The Committee wishes you well in your research and please do not hesitate to contact the Executive Officer on telephone (02) 6338 4628 or email ethics@csu.edu.au if you have any enquiries.

Yours sincerely

Julie Hieles
Executive Officer
Human Research Ethics Committee
Direct Telephone: (02) 6338 4628
Email: ethics@csu.edu.au
Cc: Dr Rodney Pupe Professor Julia Copley Dr Simone O'Shea

This HREC is constituted and operates in accordance with the National Health and Medical Research Council’s (NHMRC) National Statement on Ethical Conduct in Human Research (2007)
7 November 2013

Ms Kate Freire
School of Community Health
Charles Sturt University
PO Box 789
ALBURY NSW 2640

Dear Ms Freire,

The Charles Sturt University (CSU) Human Research Ethics Committee (HREC) operates in accordance with the National Health and Medical Research Council’s National Statement on Ethical Conduct in Research Involving Humans.

The HREC has reviewed your report requesting a variation for your research project “Cross-Generational Physical Activity: exploring the experiences of parents and primary school aged children”, protocol number 2013/127 and I am pleased to advise that this request for a variation meets the requirements of the National Statement; and variation for this research is granted for a twelve month period from 6 November 2013.

Please note the following conditions of approval:

• all Consent Forms and Information Sheets are to be printed on Charles Sturt University letterhead. Students should liaise with their Supervisor to arrange to have these documents printed;
• you must notify the Committee immediately in writing should your research differ in any way from that proposed. Forms are available at http://www.csu.edu.au/_data/assets/word_doc/0010/176833/chrec_annrep.doc;
• you must notify the Committee immediately if any serious and or unexpected adverse events or outcomes occur associated with your research, that might affect the participants and therefore ethical acceptability of the project. An Adverse Incident form is available from the website; as above;
• amendments to the research design must be reviewed and approved by the Human Research Ethics Committee before commencement. Forms are available at the website above;
• if an extension of the approval period is required, a request must be submitted to the Human Research Ethics Committee. Forms are available at the website above;

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Last updated: February 2013
Next review: February 2014
• you are required to complete a Progress Report form, which can be downloaded as above, by 12 September 2014 if your research has not been completed by that date;
• you are required to submit a final report, the form is available from the website above.

You are reminded that an approval letter from the CSU HREC constitutes ethical approval only.

If your research involves the use of radiation, biological materials or chemicals separate approval is required from the appropriate University Committee.

Please don’t hesitate to contact the Executive Officer: telephone (02) 6338 4628 or email ethics@csu.edu.au if you have any enquiries about this matter.

Yours sincerely,

Julie Hicks
Executive Officer
Human Research Ethics Committee
Direct Telephone: (02) 6338 4628
Email: ethics@csu.edu.au

Cc: Professor Julia Coyte Dr Simone O’Shan

This HREC is constituted and operates in accordance with the National Health and Medical Research Council’s (NHMRC) National Statement on Ethical Conduct in Human Research (2007)

Variation:doc

Last updated: February 2013
Next review: February 2014
Appendix B

Literature searches
EBSCO health search conducted – June 2016

EBSCO health:

- Academic Search Complete
- Cinahl Plus with full text
- Consumer Health Complete – EBSCO host
- Health Source – Consumer Edition
- Health Source – Nursing/ academic edition
- Psychology & Behavioural Sciences Collection
- SocINDEX with Full Text

1. “physical activit*”
   AND child = 26 374

2. “physical activit*”
   AND child
   AND parent = 4 868

3. “physical activit*” title only
   AND child
   AND parent = 1 581

4. Filter above search 3 to January 2006 to June 2016 = 262
Ovid search conducted – June 2016

Ovid:

- Johanna Briggs Institute EBP database
- Ovid Medline R Epub ahead of print
- Ovid Medline R 1946

1. “physical activit*”
   AND child = 32 212

2. “physical activit*”
   AND child
   AND parent = 7 333

3. “physical activit*” title only
   AND child title only = 267

4. Filter above search 3 to January 2006 to June 2016 = 231
Proquest search conducted – June 2016

1. “physical activit*”
   AND child = 53 863

2. “physical activit*”
   AND child
   AND parent = 10 948

3. “physical activit*” title only
   AND child
   AND parent = 2 624

4. Filter above search 3 to January 2006 to June 2016 = 2 106

5. Search 4 plus
   AND child title only = 1 210

6. Search 5 plus
   AND parent title only = 205
Scopus search conducted – June 2016

1. “physical activit*”
   AND child = 23 705

2. “physical activit*”
   AND child
   AND parent = 4 258

3. “physical activit*” title only
   AND child
   AND parent = 1 307

4. Filter above search 3 to January 2006 to June 2016 = 1 108

5. Search 4 plus
   AND child in title = 576
Google Scholar search conducted – June 2016

Advanced Google Scholar search

1. physical activity child = 2 940 000

2. physical activity child parent = 2 310 000

3. physical activity – exact phase
   AND child parent = 146 000

4. search 3 with date filter January 2006 to June 2016 = 15 900

5. child parent physical activity – in title = 47
Appendix C

Study One

Child questionnaire
CHILD QUESTIONNAIRE

We would like to find out about your physical activity from the last 7 days (last week).

Physical activity might include:

- **Transport activity**: such as walking or riding a bike to school
- **Exercise and sports**: such as walking, running, basketball, netball, football, touch football, swimming, dancing
- **Recreational Activities**: such as bush walking, chasies, throwing a Frisbee, playing in the park, active games such as twister
- **Helping at home/chores**: such as vacuuming, cleaning, gardening

As you can see there are many different types of physical activity. It is any activity where you move about. Watching television or playing non active computer games where you sit still (and not move about) is **not** physical activity.

Remember:

- There are no right and wrong answers – this is not a test
- Please answer all the questions as honestly and accurately as you can – this is very important.
1. What types of physical activities do you do in your **spare time** (not at school)? Please tick any physical activities you have done in the last 7 days (week). If it is not on the list, write it on the lines at the bottom of the list.

<table>
<thead>
<tr>
<th>Physical Activity</th>
<th>Type of physical activity you have performed in the last week.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport/Commuting Activity</strong> Please write in any other transport activities that you have done</td>
<td>Walking □ Riding a bike □ Scooter □ Other</td>
</tr>
<tr>
<td><strong>Exercise and sports:</strong> Please write in any other exercise or sport activities that you have done</td>
<td>AFL/NRL □ Basketball □ Cricket □ Cycling/ BMXing □ Dancing/ballet □ Horse riding/equestrian activities/polo □ Jogging/Running □ Martial arts □ Netball □ Soccer □ Squash/Racquetball □ Swimming □ Walking for exercise □ Tennis □ Touch football □ Other</td>
</tr>
</tbody>
</table>
| **Recreational Activities:** | Bush walking □  
| e.g. bush walking, throwing a Frisbee | Fishing □  
| | Play in park e.g. kicking a ball, slippery dips □  
| | Active computer games e.g. Wii □  
| | Active indoor games e.g. Twister □  
| | Other  
| Please write in any other recreational activities that you have done |  
| **Helping at home/chores:** | Vacuuming □  
| e.g. vacuuming, cleaning, gardening | Cleaning □  
| | Gardening □  
| | DIY / Building □  
| | Other  
| Please write in any other chores that you have done |  
| **Other** If you are not sure which box an activity belongs in, please list it here. |  

2. Thinking about your answers to the last question (Question1).  
Name the top 3 physical activities that you do most often.  
1.  
2.  
3.
3. How many different types of physical activities did you do each day last week? Remember physical activity can include: cycling to school, walking, playing sports, chasies, or gardening.

Please circle one per line

<table>
<thead>
<tr>
<th>Day</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
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</tbody>
</table>

4. **In the week**, at school breaks (recess and lunch) what did you do most of the time (besides eating lunch)?

Please circle one only

<table>
<thead>
<tr>
<th>Action</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat down (talking,</td>
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<td>reading, playing on the</td>
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<td>Stood around or walked</td>
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<td>Ran or played a bit</td>
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<td>Ran around and played</td>
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<td>Ran and played hard</td>
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<tr>
<td>most of the time</td>
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</tr>
</tbody>
</table>
Some activities are not active. These include: watching television, working or playing on the computer. These activities are known as screen time activities.

5. On a usual week day how many hours of screen time (television AND computer time) do you have at home?

Please circle one only

| None | less than 1 hour | Between 1-2 hours | Between 2-3 hours | Between 3-4 hours | Between 4-5 hours | 5+ hours |

6. On a usual Saturday OR Sunday how many hours of screen time (television AND computer time) do you have at home?

Please circle one only

| None | less than 1 hour | Between 1-2 hours | Between 2-3 hours | Between 3-4 hours | Between 4-5 hours | 5+ hours |
Parent(s)/carer(s) and children do many different things together. Some parent(s)/carer(s) and children may do physical activities together whilst others may do other things together such as playing a board game or reading. The following questions find out more about the physical activities that you may or may not do with your Mum, Dad, carer or both.

**Remember: there are no right or wrong answers.**
7. What types of physical activities do you do with your Mum, Dad, Carer (or both)? Tick any physical activities you have done with a parent (or carer) in the last 7 days (week). If it is not on the list, write it on the lines at the bottom of the list.

<table>
<thead>
<tr>
<th>Physical Activity</th>
<th>Type of physical activity you have performed in the last week.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport/Commuting Activity</strong> Please write in any other transport activities that you have done</td>
<td>Walking [ ] Riding a bike [ ] Scooter [ ] Other …………………</td>
</tr>
<tr>
<td><strong>Exercise and sports:</strong></td>
<td>AFL/NRL [ ] Basketball [ ] Cricket [ ] Riding a bike/BMXing [ ] Dancing/ballet [ ] Horse riding/equestrian activities/polo [ ] Jogging/Running [ ] Martial arts [ ] Netball [ ] Soccer [ ] Squash/Racquetball [ ] Swimming [ ] Walking for exercise [ ] Tennis [ ] Touch football [ ] Other</td>
</tr>
</tbody>
</table>

Please write in any other exercise or sports that you have done
### Recreational Activities:
e.g. bush walking, throwing a Frisbee

<table>
<thead>
<tr>
<th>Please write in any other recreational activities that you have done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush walking □</td>
</tr>
<tr>
<td>Fishing □</td>
</tr>
<tr>
<td>Park activities e.g. kicking a ball, throwing a Frisbee □</td>
</tr>
<tr>
<td>Active computer games e.g. ? □</td>
</tr>
<tr>
<td>Active indoor games e.g. Twister □</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

### Helping at home/chores:
e.g. vacuuming, cleaning, gardening

<table>
<thead>
<tr>
<th>Please write in any other chores activities that you have done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuuming □</td>
</tr>
<tr>
<td>Cleaning □</td>
</tr>
<tr>
<td>Gardening □</td>
</tr>
<tr>
<td>DIY/Building □</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

### Other
If you are not sure which box an activity belongs in, please list it here.

8. Thinking about your answers to the last question (Question 7).
Name the top 3 physical activities that you do most often **with a parent(s)/carer(s)**?

1. 
2. 
3. 
9. How many different types of physical activities did you do each day last week with a parent(s)/carer(s)? Remember physical activity can include: riding a bike to school, walking, playing sports, chasies, or gardening.

Circle only one per line

<table>
<thead>
<tr>
<th>Day</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
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<tr>
<td>Sunday</td>
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<td></td>
</tr>
</tbody>
</table>

10. What do you like about doing physical activity with your parent(s)/carer(s)?


11. What do you not like about doing physical activity with your parent(s)/carer(s)?


12. Are you a boy or girl? Please circle one only
   Boy       Girl

13. What year were you born in? Please circle one only

14. What year are you in school? Please circle one only
   Year 4       Year 5

15. How many brothers and sisters do you have? Please circle one only
   0       1       2       3       4       5+

16. If you have brothers and sisters, how old are they? Please list their ages

.............................................................

17. Which best describes where you live? Please tick one only
   □ In the urban area of a city / large town (population over 50,000 e.g. names of local towns)
   □ In the urban area of a small town or village (population less than 50,000 e.g. names of local towns)
   □ On a small acreage or hobby farm
   □ On a large acreage or working farm

The End! Thank you so much for taking part in this questionnaire.
Appendix D

Study One

Parent questionnaire
ADULT QUESTIONNAIRE

Dear Parent / Carer

This is an invitation for you to take part in a study conducted by researchers at Charles Sturt University. The research is called "Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children". The purpose of this research is to look into whether parents and children do physical activity together and if so, what types of physical activities they do together.

We are interested in your physical activities as an individual and if there are any physical activities that you do together with your Year 4/5 child(ren).

Physical activity might include:
Transport/commuting activity: e.g. walking or riding a bike
Exercise: e.g. weight training, walking for exercise, exercise classes
Sports: e.g. netball, football, golf, tennis, touch football
Recreational Activities: e.g. bush walking, park activities such as throwing a Frisbee, kicking a ball, rollerblading
Household duties: e.g. vacuuming, cleaning, gardening
Occupation Activities: e.g. work of a physical nature such as walking, labouring, moving furniture or digging

In completing this survey we appreciate your honest responses.
Questions 1-4 refer to ALL physical activity that YOU do (e.g. total amount).

1. In the past 7 days, **on how many days** did you do 30 minutes or more physical activity? These activities may include transport, exercise, sport, recreational activities, household duties and occupation activities.
   
   **Circle one**
   
   0  1  2  3  4  5  6  7

2. **In the past 7 days, what is the total amount of time (in hours and minutes) you have spent on each of the following activities?**
   
   Transport/commuting activity: ..........................
   
   Exercise: ..........................
   
   Sports: ..........................
   
   Recreational Activities: ..........................
   
   Household duties: ..........................
   
   Occupation Activities: ..........................

3. **On average, how many hours of recreational screen time (television, computer time, non-active computer games) do you have per day?**
   
   ..........................
4. Please list all the types of physical activities that you have performed during the last 7 days (last week). If you are not sure which box to put the particular type of physical activity in, list it in the 'Other' box at the bottom of the table.

<table>
<thead>
<tr>
<th>Physical Activity</th>
<th>Type of physical activity you have performed in the last week.</th>
<th>None Please tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport/Commuting Activity:</td>
<td>e.g. Walking or riding a bike</td>
<td></td>
</tr>
<tr>
<td>Exercise:</td>
<td>e.g. weight training, fast walking, swimming, running, riding a bike</td>
<td></td>
</tr>
<tr>
<td>Sports:</td>
<td>e.g. netball, football, golf, tennis, touch football</td>
<td></td>
</tr>
<tr>
<td>Recreational Activities:</td>
<td>e.g. bush walking, kicking a ball, throwing a Frisbee</td>
<td></td>
</tr>
<tr>
<td>Household duties:</td>
<td>e.g. vacuuming, cleaning, gardening</td>
<td></td>
</tr>
<tr>
<td>Occupation Activities:</td>
<td>e.g. work of a physical nature such as walking, labouring, moving furniture or digging</td>
<td></td>
</tr>
<tr>
<td>Other If you are not sure which box an activity belongs in, please list it here.</td>
<td></td>
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</tr>
</tbody>
</table>
5. Consider the previous examples of physical activity. Please list the three physical activities that you do most often with the most frequent.

1. 
2. 
3. 

The remainder of the questionnaire refers to physical activities that you DO TOGETHER WITH YOUR YEAR 4/5 CHILD(REN).
6. Please list the types of physical activities that you have performed during the last 7 days (last week) WITH your Year 4/5 child(ren).

<table>
<thead>
<tr>
<th>Physical Activity</th>
<th>Type of physical activity performed with your Year 4/5 child(ren) in the last week.</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport/Commuting Activity with your Year 4/5 child(ren): e.g. Walking or riding a bike</td>
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</tr>
<tr>
<td>Exercise with your Year 4/5 child(ren): e.g. weight training, fast walking, swimming, running, riding a bike</td>
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<td></td>
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<tr>
<td>Sports with your Year 4/5 child(ren): e.g. netball, football, golf, tennis, touch football</td>
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</tr>
<tr>
<td>Recreational Activities with your Year 4/5 child(ren): e.g. bush walking, throwing a Frisbee, kicking a ball, park activities</td>
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<tr>
<td>Household duties with your Year 4/5 child(ren): e.g. vacuuming, cleaning, gardening</td>
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</tr>
<tr>
<td>Other Activities with your Year 4/5 child(ren). If you are not sure which box an activity belongs in, please list it here.</td>
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</tbody>
</table>
7. Consider the previous examples of physical activity. If you perform physical activity with your Year 4/5 child(ren), please list the three physical activities that you do most often with your Year 4/5 child(ren) starting with the most frequent.

1.
2.
3.

8. Over the last week, for how much time have you and your Year 4/5 child(ren) been active together? Please circle the amount of time for each day

<table>
<thead>
<tr>
<th>Day</th>
<th>Nil</th>
<th>Less than 10 mins</th>
<th>10-29 mins</th>
<th>30-59 mins</th>
<th>1-2 hours</th>
<th>2 hours+</th>
</tr>
</thead>
<tbody>
<tr>
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</table>
9. On **average**, my Year 4/5 child(ren) and I perform physical activities (transport, exercise, sports, recreational activities or household duties) together:

Circle one

Never    Monthly    Weekly    2-3 x a week    Daily

10. If you do any physical activity with your Year 4/5 child(ren), who **asks to do** the physical activity?

Circle one

Mostly me    Mostly your Year 4/5 child(ren)    Mostly another sibling    Mostly another parent/carer

Other (please explain) .................................................................

11. Are there any physical activities that you do regularly that you would **not consider doing with your Year 4/5 child(ren)**?

Please List Any

12. **Why** would you **NOT** consider doing this activity with **your Year 4/5 child(ren)**?


13. What do you **LIKE** about doing physical activity with your Year 4/5 child(ren)?

14. What do you **NOT LIKE** about doing physical activity with your Year 4/5 child(ren)?

15. Please rank the amount of physical activity that you do with your Year 4/5 child(ren) according to the seasons (*1 = the most* amount of physical activity, *4 = the least* amount of physical activity).

   - Spring
   - Summer
   - Autumn
   - Winter

16. Please **rank term time** and **holiday time** for how likely you are to do physical activity with your Year 4/5 child(ren). **Please circle one per row**

   - During the school term:  
     - More likely
     - The same
     - Less likely
   - During the school holiday:  
     - More likely
     - The same
     - Less likely
17. From the following list, please indicate if you think these factors **HELP** you to engage in physical activity with your Year 4/5 child(ren). **Circle one response per row**

- **Good access to sports facilities**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

- **Active environment near the home, i.e. Access to bike paths, footpaths, playing fields, parks**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

- **Active environment at home, i.e. garden, play equipment**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

- **Time efficiency – a way for both child and adult to gain physical activity**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

- **Occupying children whilst looking after them**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

- **Enjoyment – in the activity**

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

18. Are there any factors **NOT** listed above that help you engage in physical activity with your Year 4/5 child(ren)?
19. What factors do you think LIMIT you from doing physical activity with your Year 4/5 child(ren)? **Circle one response for each row.**

- **Lack of time**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Cost of activity**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Poor access to facilities**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Child lack of interest**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Parent lack of interest**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Fitness mismatch**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Skills mismatch**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Other children**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Heat/humidity**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Cold weather**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Rain**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree

- **Reduced daylight hours**
  Strongly Disagree  Disagree  Neither Disagree nor Agree  Agree  Strongly Agree
20. Are there any factors not listed in the previous question that limit you from doing physical activity with your Year 4/5 child(ren)?

21. Do you have any children in addition to the Year 4/5 child/ren?
   Please circle
   Yes  No  (please proceed to question 23)

22. Please indicate how many children you have, other than the Year 4/5 child/ren.
   Please circle
   1  2  3  4  5  6+

23. Please list the ages of these children.
   ........................................................................................

24. Which description best describes where you live?
   Please tick one
   □ In the urban area of a city / large town (population over 50,000 e.g. name of local city/large towns as examples)
   □ In the urban area of a small town or village (population less than 50,000 e.g. names of local towns as examples)
   □ On a small acreage or hobby farm
   □ On a large acreage or working farm

25. Please indicate your gender
   Please tick one
   □ Male  □ Female
26. In which age range are you? Please tick one
   □ 20-24    □ 25-29
   □ 30-34    □ 35-39
   □ 40-44    □ 45-49
   □ 50-54    □ 55+

27. Where were you born? Please tick one
   □ Born in Australia □ Born overseas

28. Are you an Aboriginal or Torres Strait Islander? Please tick one
   □ Yes □ No

29. What is the highest level of education / qualification you have completed? Please tick one
   □ Year 9 or below    □ Year 10 or equivalent
   □ Year 12 or equivalent □ Trade certificate
   □ Associate diploma/diploma □ Bachelor degree
   □ Graduate certificate/diploma □ Master degree
   □ Doctorate

30. What is your occupation group? Please tick one
   □ Manager    □ Professional
   □ Technician or Trade Worker □ Community or Personal
   □ Service Worker
   □ Clerical or Administrative Worker □ Sales Worker
   □ Driver or Machinery Operator □ Labourer
   □ Not in paid employment
31. What is your approximate weekly household income (before expenses)?

Please tick one

☐ $1 - $199
☐ $200 - $399
☐ $400 - $599
☐ $600 - $799
☐ $800 - $999
☐ $1000 - $1199
☐ $1200 - $1399
☐ $1400 - $1599
☐ $1600 - $1799
☐ $1800 - $1999
☐ $2000 or more
In 2013, the principal researcher will conduct family unit interviews (interviews with one family at a time) and focus groups of children and parents separately to gain further insight into how families may or may not be active together. If you would be willing to be contacted and invited to take part in these interviews and focus groups, please provide your contact details below.

Please note, you are not consenting to take part in further research but giving the researcher permission to contact you at a later date to invite you to participate. You have the right to withdraw from the research at any time.

Please provide your name, phone number or email address (your preferred method of being contacted) so that the researcher can contact you for this purpose, if you have agreed to be contacted.

Name ……………………………………………………

Contact details………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………

To ensure your confidentiality, your name, phone number or email address will be kept separately to the answers on this questionnaire so that it will not be possible to identify you.

Thank you for taking the time to complete this questionnaire. Please return questionnaire in envelope provided either by post or the school drop box.
Appendix E

Study One

Letter to school principals
October 2012

Dear Principal

This letter seeks your permission to ask Year 4 and 5 students from your school and their parents to take part in the following study: **Cross-Generational Physical Activity - exploring the experiences of parents and primary school aged children.** This research, which is being undertaken in primary schools (Public, Independent and Catholic Public) across the (name) region of NSW, aims to explore parents’ and children’s engagement in physical activity together. The NSW Department of Education has given their permission for me to contact you in regards to this to the project.

The research project is being undertaken by Kate Freire who is a PhD student at Charles Sturt University. Contact details for Kate and her supervisors may be found below.

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Research Supervisor</th>
<th>Research Supervisor</th>
<th>Research Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kate Freire</td>
<td>Dr. Rod Pope</td>
<td>Assoc Prof Julia</td>
<td>Dr. Simone O’Shea</td>
</tr>
<tr>
<td>School of Community</td>
<td>School of</td>
<td>Coyle</td>
<td>School of Community</td>
</tr>
<tr>
<td>Health, Charles Sturt</td>
<td>Community Health,</td>
<td>Community Health,</td>
<td>Health, Charles</td>
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<tr>
<td>University, PO Box 789</td>
<td>Charles Sturt</td>
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<td>Sturt University,</td>
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<tr>
<td>Albury, NSW 2640</td>
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Should you provide permission to proceed, your school’s involvement will entail the following:

5. **Distribution of Research Invitations and Packages to Parents via Year 4 and 5 Students.**
6. **Assistance with Collection of the Parental Consent Forms and Adult Questionnaires**
7. **Distribution of Research Invitation Reminders**
8. **Administration of the Child Questionnaire for Year 4 and 5 Students Whose Parents Have Given Permission**
Details associated with each of these are provided below.

1. *Distribution of Research Invitations and Packages to Parents via Year 4 and 5 Students.*

This package would contain:

- An information sheet and paper version of the adult questionnaire
- A copy of the child questionnaire (which would be conducted at School) and consent form for parents/carers
- A stamped addressed envelope to return the adult questionnaires.

If permission is granted, research invitations may also be sent out via the school newsletter or email distribution list. The parents will be given an option of filling in a paper questionnaire or online version. Copies of the above documents are attached for your information; they provide further details on confidentiality and privacy of participants.

2. *Assistance with Collection of the Parental Consent Forms and Adult Questionnaires*

Parents will be asked to return the parental consent form to a drop box (located behind the desk at the school office) within a short period of time, 1-2 weeks. Some parents may also wish to return their questionnaire in this manner although a stamped addressed envelope will also be provided.

3. *Distribution of Research Invitation Reminders*

Research reminders would be sent out via the Year 4 and 5 students approximately one week after the initial package distribution.
4. Administration of the Child Questionnaire for Year 4 and 5 Students Whose Parents Have Given Permission

A staff member from your school will be asked to administer the child questionnaire. It will be up to your discretion and your school facilities whether the students fill in a paper or online version of the questionnaire. Only children of parents who have returned a signed consent form will be invited to take part by providing them with a child information sheet at school. The child information sheet and questionnaire were compiled with feedback from an expert in the field of child education at Charles Sturt University. The information sheet provides the child with simple information about the study and informs the child that despite their parent’s consent it is still their decision whether or not to take part. Children will be asked to post the questionnaires into a drop-box once finished if the paper (rather than online) version of the questionnaire is chosen by the school. Those students whose parents have not given consent or who do not provide assent themselves to filling in the questionnaire will need to be provided, by the supervising teacher, with a suitable alternative activity for the 15-20 minute time period it is anticipated the questionnaire will take.

With your permission, I can be there in person before and after the questionnaire administration in order to answer any questions from the children or staff. To avoid the potential for coercion to participate, I will need to remove myself from the room before the children decide whether or not to take part and during administration of the questionnaire.

No participants or schools will be identifiable in the reporting or publication of the results. Should you wish, a summary document of research findings can be provided once the research has finished. This research will add to understanding of the role of parents in their child’s physical activity (and vice versa) and this in turn will contribute to increased insight on the parental role in the parental/school partnership for child physical activity.

Your school has the right to withdraw from the study at any time during the research. Charles Sturt University’s Human Research Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you
may contact the Committee through the Executive Officer: Human Research Ethics Committee, Office of Academic Governance, Charles Sturt University, Panorama Avenue, Bathurst NSW 2795, Tel: 02 6338 4628, Email: ethics@csu.edu.au. Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

I would be delighted to have the opportunity to discuss the study with you in more detail. Please contact me via email or telephone.

Best wishes

Kate Freire
Encl. Child Information Sheet, Child Questionnaire, Parental Consent Form, Adult Information Sheet, Adult Questionnaire
Appendix F

Study One

Child information sheet

Parent information sheet

Parental consent form
PARTICIPANT INFORMATION SHEET FOR CHILDREN

Dear Student
This is an invitation for you to take part in a study conducted by researchers at Charles Sturt University. The research is called **Cross Generational Physical Activity: exploring the experiences of parent(s)/carer(s) and primary school aged children.** The purpose of this research is to look into whether parent(s)/carer(s) and children do physical activity together and if so, what kind of physical activities they do together.

**Physical activity might include:**

- **Transport activity:** such as walking or riding a bike to school
- **Exercise and sports:** such as walking, running, basketball, netball, football, touch football, swimming, dancing
- **Recreational Activities:** such as bush walking, chasies, throwing a Frisbee, playing in the park, active games such as twister
- **Helping at home/chores:** such as vacuuming, cleaning, gardening

**Investigators**

<table>
<thead>
<tr>
<th>Kate Freire</th>
<th>Dr. Rod Pope</th>
<th>Assoc Prof Julia Coyle</th>
<th>Dr. Simone O’Shea</th>
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<tbody>
<tr>
<td>School of Community, CSU.</td>
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<td><a href="mailto:soconnor@csu.edu.au">soconnor@csu.edu.au</a></td>
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</table>
Why have I been invited?
We invited all children in Years 4 and 5 at school in the (name) region and their parent(s)/carer(s) to take part in the study.

What will I have to do?
If you choose to take part you will be asked to answer 17 questions. Questions include: What types of physical activities do you do in your spare time? What do you like about doing physical activity with your parent(s)/carer(s)? It is not a test. There are no right or wrong answers. Apart from taking up 10-15 minutes of your time to complete the questions, we can foresee no risks for you.

Will anyone know what I wrote?
You will not be asked for your name. You and your school will not be identified in any part of the research. The answers from the study will be kept in a secure database.

Do I have to take part?
No. Your parent(s)/carer(s) gave us permission to ask you if you would like to take part but it is up to you. You can decide whether or not to take part. You can stop answering the questions at any time. If you change your mind once you have handed it in, it will still be included in the results because it will not be possible to tell which one is yours.

Why are we doing the study?
If you decide to take part you will be providing us with valuable information on if and how parent(s)/carer(s) and children do physical activities together. The information will be published in a research book and possibly health journals. The information may help plan future ways to help families do physical activity.
Further information and contact details
If you have any questions that have not been answered by this information sheet, Kate will be happy to answer any questions that you have. If you have any questions after you have completed the questionnaire Kate will be happy to answer those too.

Ethics Review and complaints
This study has been reviewed by the Human Research Ethics Committee at Charles Sturt University. If you are not happy with the way this research has been conducted, you can tell your parent(s)/carer(s) or the teacher who can contact the Ethics Officer at the University on 02 6338 4628 or email ethics@csu.edu.au.

Thank you for your interest in the study.
This information sheet is for you to keep.
PARTICIPANT INFORMATION SHEET FOR ADULTS

Dear Parent/Carer

This is an invitation for you and your Year 4/5 child to take part in a study conducted by researchers at Charles Sturt University. The research is called **Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children.** The purpose of this research is to look into whether parents and children do physical activity together and if so, what types of physical activities they do together. The NSW Department of Education has given permission for the research to take place in the schools.

**Physical activity might include:**

- **Transport activity:** such as walking or riding a bike to school
- **Exercise:** such as walking, running, exercise classes
- **Sports:** such as basketball, netball, football, swimming, dancing
- **Recreational Activities:** such as bush walking, chasies, throwing a Frisbee, playing in the park, active games such as twister
- **Household duties:** such as vacuuming, cleaning, gardening
- **Occupational Activities:** such as walking, labouring, moving furniture or digging

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This research project is being undertaken by Kate Freire who is a PhD student at Charles Sturt University.
Why have I been invited?
All parents or carers of children in Years 4 and 5 at primary schools in the (name) region have been invited to take part in the study.

What does taking part involve?
It will involve the completion of a short 15 minute questionnaire. The questionnaire is enclosed for you to complete, or online at https://www.surveymonkey.com/s/PhysAct

Do I need to provide consent for my child to take part?
Yes. A copy of the information sheet and questionnaire that your child will be asked to complete at school under the supervision of a teacher has been sent home along with this information. If, after reading the enclosed information sheet you are willing for us to ask your child’s permission to also fill in a questionnaire, please fill out the enclosed consent form. Please return the signed consent form to your child’s school as soon as possible. The school office will accept both consent forms and the adult questionnaires.

Why are we doing the study?
Very little is known about physical activity in families. For instance, we do not know why some families choose to do physical activity together and others do not. The findings from this research will help provide valuable information about how families manage physical activity in their daily lives. This information will be useful to families, communities and governments to develop appropriate physical activity programs.

What will happen to the results?
The study is part of a PhD project exploring physical activity in families and therefore the de-identified results will be published in a thesis and peer reviewed journals. If you are interested in the results of this study, please contact me via my email address (see first page) and I would be happy to provide you with a summary document once finished.
**Will anyone know what I write?**

No. You, your child and their school will not be identified in any part of the research. The researchers have not had access to any class lists from the school. All information collected from the questionnaires will be securely stored in a locked filing cabinet in the locked office of the chief investigator, Ms Freire or on a password protected computer at Charles Sturt University with access restricted to the researchers named on this information sheet. Your confidentiality will be maintained at all times. Your name will not be included in any material produced from the research or any other identifying information.

**Do we have to take part?**

No. It is entirely your decision. You can decide whether or not to take part. You can stop answering the questions at any time. If you change your mind once you have sent it back, it will still be included in the results because it will not be possible to tell which one is yours. If you decide not to take part but you are happy for your child to fill in their questionnaire at school then please return the signed consent form to the school drop-box.

**Are there any risks associated with our participation in this study?**

The questionnaire is of low risk. It asks for information and your opinion on your physical activity and whether you do physical activity with your Year 4/5 child. This personal information will be treated in a respectful and confidential manner and as the survey is anonymous, no one will be able to associate you with your questionnaire responses.
Who should I contact if I have concerns about the conduct of this study?

Charles Sturt University’s Human Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Tel: 02 6338 4628
Email: ethics@csu.edu.au

Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Thank you for taking the time to read this information and consider the study.
This information sheet is for you to keep.
Research Project: Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children.

I (print name) ....................................... give consent to the participation of my child (print name) .............................................................. in the above research project at (name of school) ....................................... school in Year......

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This research is being undertaken by Kate Freire who is a student at Charles Sturt University.

In giving my consent I acknowledge that:
1. I have read the Adult Information Sheet which provides the opportunity to discuss the information and my child’s involvement in the project with the researchers.
2. Any questions about the project have been answered to my satisfaction.
3. I have discussed the project with my child and understand that my child will be asked for their assent before participation in the project.
4. I understand that my child’s participation in this project is voluntary; a decision not to participate will in no way affect their academic standing or relationship with the school and they are free to withdraw their participation at any time.
5. I understand that my child’s involvement is strictly confidential and that no information about my child will be used in any way that reveals my child’s identity.
6. I understand that my child will be asked to take part in the study in the next few weeks and if I am happy for my child to take part will return the consent form to the school as soon as possible.

Signed................................................................................................................................

Name (please print)............................................................................................................

Date................................................................................................................................

Charles Sturt University’s Human Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer, Human Research Ethics Committee, Office of Academic Governance, Charles Sturt University, Panorama Avenue, Bathurst NSW 2795, Tel: 02 6338 4628, Email: ethics@csu.edu.au. Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.
Appendix G

Figure G1. Proportions of child respondents (N = 98) with siblings of certain ages.
Figure G2. Proportions of parent respondents (N = 62) with additional children of certain ages.
Appendix H

Figure H1. Proportions of child respondents (N = 99) who reported having engaged in active transport in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H2. Proportions of parent respondents (N = 63) who reported having engaged in active transport in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H3. Proportions of child respondents (N = 99) who reported having engaged in exercise and sport in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H4. Proportions of parent respondents (N = 63) who reported having engaged in exercise and sport in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H5. Proportions of child respondents (N = 99) who reported having engaged in recreational activities in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H6. Proportions of parent respondents (N = 63) who reported having engaged in recreational activities in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H7. Proportions of child respondents (N = 99) who reported having engaged in chores in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Figure H8. Proportions of parent respondents (N = 63) who reported having engaged in chores in general or as cross-gen PA, in the week prior to administration of the questionnaire.
Appendix I

**Figure I.** Proportions of parent respondents (N = 59) reporting having engaged in cross-gen PA of certain durations with their Year 4 or 5 child by day of the preceding week.
Appendix J

Colour coding of child and parent responses regarding what they liked about cross-gen PA.

Child responses (N = 87)

Time together - with a sub-theme of bonding,

Talking, communication opportunity,

Fun, enjoyment, laughter,

Health benefits,

Benefit from PA with parent,

Specific activities

C1 – “We get to spend time together”.
C2 – “It's fun and it makes me happy”
C3 – “Fun, keeping fit, spending time with them”
C4 – “It's really fun”
C5 – “I like the way they smile because there’re happy and it makes me happy”
C6 – “I get to find out more about my parents and bonding with them”
C7 – “Swimming, sports”
C8 – “It's a lot of fun”
C9 – “We get to have fun”
C10 – “They can teach you how to do the active activity”
C11 – “It's fun to get exercise”
C12 – “It is fun and it makes me happy”
C13 – “Spending family time and having fun”
C14 – “I like netball, throwing and catching”
C15 – “They give us courage”

C16 – “It is fun watching them try to catch us”

C17 – “They make you get fit”

C18 – “I like swimming with them”

C19 – “I can race them and keeps me competitive”

C20 – “I race my parents”

C21 – “It's fun and they encourage me”

C22 – “AFL, soccer and running”

C23 – “Bike riding or inside games”

C24 – “That they don't kick the ball on the road”

C25 – “I like swimming, walking and running”

C26 – “That they enjoy doing it with you”

C27 – “Because it's more fun to do it with someone than with no-one”

C28 – “I like it that we're together and having fun”

C29 – “Spending time together and having fun”

C30 – “That it’s fun and also bonding together at the same time”

C31 – “I like swimming and playing cricket”

C32 – “You get to have company while you're doing it and you get closer to them and spend more time together”

C33 – “It's more fun with more people”

C34 – “It's fun and you can have help if you need it”

C35 – “You can stay healthy while having fun”

C36 – “It's always fun and we have some good conversations”

C38 – “Getting to catch up and spend time together”

C39 – “Because you get exercise”

C40 – “I get the best out of it”

C41 – “Playing and Mum’s funny”

365
It's bonding time, so you can get to know your parents more. All the family can join in including your parents

Because it's fun

It makes me fit

I like that it’s a time where you're with your family having fun and keeping fit at the same time

Get to go places

We both get fit and it's fun for me and her

I like gardening and walking the dogs around the block

It's fun and it keeps you active

Walking around the town, practice netball shooting, swim in the pool, run in the backyard

Having fun/being healthy

Playing chasey, because it's funny

Riding motorbikes

Walking

You spend lots of time together

I like doing physical activity with my parents because it makes us all get together

Spending time with them and catching practice

Riding our bikes, walking

My dad tickles me. It’s fun

Being with my family

I like having fun and getting fit

I like the ability to talk to them whilst doing exercise, without other siblings

It’s fun

Having a competition, having fun

It is fun
C71 – “It's fun to be with them”
C72 – “Walking”
C73 – “It is fun”
C74 – “Really fun”
C75 – “I like being with my parents”
C76 – “Because it's fun”
C77 – “Spending time with my parents and playing games”
C78 – “It's fun because we tell jokes to each other”
C79 – “It's fun because you get to spend time with your family”
C80 – “They always help you”
C82 – “Playing with Mum and Dad”
C83 – “Fun”.
C84 – “I like physical activity because it is fun”
C86 – “Fun”.
C89 – “Fishing with Dad”
C90 – “It is fun”
C92 – “It's more fun than playing by yourself”
C94 – “Going to the park with my mum and dad and my brothers”
C95 – “My parents have fun”
C96 – “Dancing”
C97 – “Cleaning, because I'm neat freak and like cleaning and some jobs”
C99 – “It makes you stronger”
Parent responses (N = 59)

Time together - with a sub-theme of bonding,

Talking, communication opportunity,

Fun, enjoyment, laughter,

Health benefits,

Role modeling,

Skill development and sporting behaviour

P1 – It’s nice to laugh together and chat about things at the same time

P2 - Time together , teaching technique

P3 - Promotes Healthy Lifestyle - Shared family time – laughter

P5 - time to spend together, and sometimes it is in the absence of all siblings so it can be a good chance to 'catch up' and talk

P6 - Get a chance to relax and chat about things that don't come up in general conversation

P7 - Fun, spending time with our kids and, keeping them fit.

P8 - enjoyment of them learning and watching them

P9 - encourages activity

P10 - I like to see them engaging in healthy activity and it often provides an opportunity for discussion

P11 - they make me laugh

P12 - spend time together,

P13 - time spent together

P14 - fun, time to talk

P15 - fun, time to talk, enjoy the exercise, good for parents, children and dog, fresh air

P17 - time spent together

P18 - bonding and mental health improvement
P19 - Keeping fit. Using it as a time to communicate healthy lifestyle choices/ everyday issues
P20 - being together
P21 - fun
P22 - fun
P23 - It's something we do together. I want to encourage an active lifestyle
P24 - we both enjoy it
P25 - we both enjoy it
P26 - exercising together. Being a positive role model.
P28 - Great mother/daughter time. Healthy for us both.
P29 - spending time.
P30 - quality time. Keeping active. Ensuring they are developing the right skills. Household - ensure they are contributing.
P32 - being together and keeping active
P33 - It's just fun being together - a nice way of talking, playing and catching up
P34 - bonding, sharing time together, company, nice way to catch up
P35 - Time to talk. Show appreciation of his skill development.
P37 - one on one time
P38 - Bonding. It helps to build a great relationship
P39 - It makes them happy
P40 - the togetherness and talking
P41 – to see the enjoyment on their face
P43 - shared time, hopefully model healthy behaviours
P44 - being together
P45 - being together
P46 - sharing the experiences, talking
When we walk we chat and talk about things. When we swim we have fun spending time with my kids. It helps to get to know each other in a fun environment. Makes him happy. Cycling is good, they love the outdoors. Swimming in summer. Friendship and laughing. Teaching skills and sportsmanship. Having fun building good memories. Spending time with my kids. Watching them progress physically and emotionally. Often a good time to talk as they are relaxed. Spending time together to keep fit and enjoy our time together. Bonding, fun, skill development, exercise. Time spent together, fun family activities. Bonding, both getting exercise, teaching her good qualities. It's fun and I feel like I'm encouraging her to be physical. I hope I am setting a good example. Seeing them grow and become more proficient, bonding. Chance to talk with child, interaction, talking about things they may not necessarily ask eg things they wonder about such as why things are the way they are - abstract concepts.
Appendix K

Excerpts from research diary

The researcher used shorthand (Teeline based) when writing in her research diary, therefore a transcript has been provided.
Meeting with Supervisors

Discussion on role in ecological models of health vs. role in influence of I research.

20% part of my background knowledge is influenced by research already done. In Project 1, I'm combining adults' and child's views.

I discuss around 7-7 models or knowledge/understandings. None of them constrain my approach. I'd like it if we could have more ability to notic things outside those models.

Therefore need - v 7 talk with my mind. 7 need to be - 7 fore.

How - 7 is influence another?

- Initial impression 1/4 transcending identify what things were expected. We can't e.g. Not adult 7, child 7, impact on expecting, around what identify 7 parents v. more of influence v. CCP/7.

- Need to incorporate those unexpected issues into 7.SP.

- How?

- Might take 7 7 quarter.

- Add 7 v prompt questions to delve deeper - 1 topic.

Note:
Discussion around participants 3-5 time feel comfortable enough to say 7. Think. Consider impact on starting a discussion on CCP 7. Perhaps 7.7 height 7 why one participant til almost end v 7. Say 7.5 7 think 70 role. Think about how introduce. Perhaps add into when discussing v. PA 6.1 v CCP/7.

Could say 7 7 7 7.
Meeting with Supervisors

Discussion on role of ecological models of health and it’s role/ influence in the research.

Are part of my background knowledge and have influenced part of the research already e.g. Project One – in compiling adult and child survey

However discussion around making sure that the models or knowledge/understanding of the models don’t constrain my approach to the data which might then reduce ability to notice things outside those models that have not been considered.

Therefore need to have it in the back of my mind and the research questions to the fore.

How does one focus group influence another?

- Through initial impression and when transcribing identify what things were expected and what weren’t e.g. First adult focus group- impact of sporting seasons was identified by parents as having more of an influence on cross-gen PA than I had previously thought or considered.
- Need to incorporate those unexpected issues into next focus group
- How?
- Might take them as quotes
- Add them as prompt questions to delve deeper into the topic

Norms

Discussion around participants taking time to feel comfortable enough to say what they think. Consider impact on starting a discussion on cross-gen PA perhaps establishes it as a norm and that might be why it took one participant till almost end of focus group to say that she did not think it was her role. Think about how introduce it. Perhaps add into introduction when discussing what PA is and what cross-gen PA. Could say that some may do and some may not.
Second child focus group

Process

Worked better drawing with them and not just sitting and watching. I drew bubble thoughts.

1. Reinforces not a test
2. Gave them confidence to get down and scribble
3. Timing wise – gives interviewer a better idea of timing

Ran out of time a bit and felt rushed towards end as we spent longer discussing what PA they did together. However, I felt it relaxed a bit more and need to check the transcript as to whether anything other than type of PA was discussed as I think at least one participant talked about how they did that PA as well.
First adult focus group - 23/09/2013

Impression

Went well – mothers x2 happy to chat about their children

Hard at times to tell whether they were really talking about their experiences with their children in general or specifically about their Year 5/6 child.

Both mothers had boys in Year 6 and both had x2 older children (1 x2 girls, I think & 1 x1 of each). Therefore there appeared to be a lot of consensus in opinion especially about where they were up to in PA. One regularly ran in a group 5.30am, the other was not really ‘active’ naturally and felt that she had to make herself be active.
376

Rey
First adult focus group.

x2 works 9:25 AM + 4:20 PM.

* Need to work on how to draw out what someone
  is feeling + not V child.

* Timing went OK.

Feedback:
* Watch me working + need to agree w/ people, may +
  good,恹 wish to give more confidence - was open.
* Need - figure out how to probe deeper.

* Altering + Z to be well down PAT + don't V child - ven.
  Z 4 pick up for lunch + home + daily PAT.

* Learned talking + cold 6 + head + Z to provide living + friends
  9 + Z + B think PAT is w/ part of + need to stay +
  Z with K + Z + have a V around 6 + V confidence -
  need to think a V child PAT.
Process

First adult focus group

X 2 mothers 025 and 044 from questionnaire

Need to work on how to draw out what someone is thinking and feeling when doing PA with their child.

Timing when OK

Transcribing

Watch interrupting! I tend to agree with people, may be good at times as gives them confidence to carry on.

Need to figure out how to probe deeper.

Interesting to me that they both plan their own PA but don’t their child’s during term. They will plan specific events in hols but not daily PA.

One parent talking about cross-gen PA not being their role. That they provided sibling and friends and that they did not therefore think PA with them was a part of their job. BUT went on to say still feels guilt about not doing more of it. There seems to be a bit of confusion about what a parent’s role is for a child’s PA.
Summary what next. What I need to consider for next focus group.

- Difference between partners?
- Joining in (waiting for an invite/permission)
  Cross-gen PA may not always start out to be that
- Initiating cross-gen PA – difference between types
- Not their role
- Influence of child sporting seasons
- Why they do cross-gen PA – household – almost quality check thing
- Impact of sporting seasons. Discuss with that term/holiday time. Some of it coincides.
- Planned vs unplanned
- Guild – why?
- Protection? time, children.
First Family Unit Interview

They were clearly an active family. Mum and Dad did their own PA and 3 children with daughter in Year 6 at school and two younger sibling, daughter and son.

There was very little competitive activity that they did but a lot of together time. The mother came up with a lovely term, can't remember it now of their walks around their property at the end of the day.

Father described how he had asked the kids how far they thought they could swim for a Bipurcheachie" and all the kids said what they thought they could do and then added from how far they could swim for a Bipurcheachie stick and all the kids said what they thought they could do and then added some targets. I thought that started up interesting perspective and the bought from that.

I thought about this and shared a unique amoment. I thought about the way we as parents should have asked them how they can add a similar question in other ways as PA topic. I thought was an interesting perspective; I thought could ask if we had.

I'm not sure how it would have worked as PA topic but I think it could have been an interesting perspective to start with.
If PA is non-verbal communication what is being communicated?

It is a feeling of togetherness, from doing an activity together. Just as music is always music even if discordant, PA is always PA and doing it together lends consensus to the participants even if other aspects of that relationship aren’t tuneful. There is an equalising aspect to it, many parents have used the term ‘sharing’ to describe it. Even in circumstances where power might be unequal, the physicality of doing something together can turn the engagement into two people working together for a common goal, be that finishing the walk, working on a tennis shot etc.

It is worth mentioning here that the environment that some of these PA exchanges take place may be on more neutral territory e.g. park which would augment the comradeship.
Overview.

28. 10. 2015

Time is a commodity.

Xenon was measured in 2 commodities.

2 Commodities

Xenon was traded in 2 commodities.

Time & enjoyment.

Time - spending time

enjoyment & was related to
individuals exp. of areas of

...
Appendix L
Study Two
Child information sheet
Parent information sheet
INFORMATION SHEET FOR CHILDREN ABOUT CHILD FOCUS GROUPS
Research title: Cross-generational physical activity: exploring the experiences of parent(s)/carer(s) and primary school aged children.

Dear Student

Hi, my name is Kate. I would like to invite you to take part in a study conducted by researchers at Charles Sturt University. The purpose of the research is to find out more about the physical activity that parents (carers) and children do together by listening to what both parents and children have to say about it.

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Supervisors</th>
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<td>Dr. Rod Pope</td>
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<td>Dr. Simone O’Shea</td>
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School of Community Health, CSU.  
Office of Dean of Students, CSU.  
Exersafe Pty Ltd, NSW.  
School of Community Health, CSU.  
02 6051 9238  
kfreire@csu.edu

02 6051 9238  
02 6933 4970  
rpope_res@bigpond.com  
soconnor@csu.edu

Why have I been invited?
We invited all children in Years 5 and 6 at participating schools in the (name) region.

What will I have to do?
I would like to hear what you think and feel about doing physical activity with your parents or carers. If you would like to join in today we will be doing some talking together, listening to what some of your friends have to say, writing and perhaps some drawing. It will take about one hour to do all the activities but it’s up to you how much you join in and you can say if you don’t wish to join in an activity or stop. It is not a test so there are no right or wrong answers.
Will anyone know what I said, drew and wrote?
I will be audio recording our session today so that I can review everyone’s thoughts on doing physical activity with their parents and identify common themes. We will not use your real name when reporting this study but will give you a pretend name or code so that no-one will know it is you. If you give me permission to keep any drawing that you do we will put the pretend name or code on the drawing too. You and your school will not be identified in any part of the research. We will keep all the information from the study in a secure place.

Do I have to take part?
No. Your parent(s)/carer(s) gave us permission to ask you if you would like to take part but it is up to you. You can decide whether or not to take part. You can stop taking part at any time. If you change your mind once we have started recording though the answers that you have already given will still be included in the results because it may not be possible to tell which answers are yours.

Why are we doing the study?
We do not know much about what children think about doing physical activity with their parents (carers). If you decide to take part you will be providing us with valuable information which will be published in a research book and possibly health journals. The information may help plan future ways to help families do physical activity.

Further information and contact details
If you have any questions that have not been answered by this information sheet, Kate will be happy to answer any questions that you have. If you think of any questions during the focus group, ask away.

Ethics Review and complaints
This study has been reviewed by the Human Research Ethics Committee at Charles Sturt University. If you are not happy with the way this research has been conducted, you can tell your parent(s)/carer(s) or the teacher who can
contact the Ethics Officer at the University on 02 6338 4628 or email ethics@csu.edu.au.

Thank you for taking the time to read this information and your interest in the study.
This information sheet is for you to keep.
INFORMATION SHEET FOR ADULTS ABOUT CHILD FOCUS GROUPS

Research title: Cross-generational physical activity: exploring the experiences of parent(s)/carer(s) and primary school aged children.

Dear Parent/ Carer

This is an invitation for your Year 5/6 child to take part in a study conducted by researchers at Charles Sturt University. The purpose of the research is to find out more about the physical activity that parents (carers) and children do together from the perspective of both the child and parent. The NSW Department of Education has given permission for the research to take place in the schools.

This research project is being undertaken by Kate Freire who is a student at Charles Sturt University.

Why has my child been invited?

All children from Years 5 and 6 from participating primary schools in the (name) region have been invited to take part in the study.

What does taking part involve?

Your child will be invited to take part in a focus (discussion) group with their fellow students in Years 5 & 6 on their experience of physical activity with their parent(s). The focus group will run for approximately 60 minutes. The groups may include drawing and writing as well as talking. The researcher will ask your child’s permission to keep the de-identified drawings and writing and the session will be audio taped.

Who can be included in this study?

Participants involved in the focus group must be able to speak English. We are running separate adult and child focus groups, as well as family unit interview and in-depth interviews. Kate will be contacting those adults who

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<td>Pty Ltd, Pambula, NSW</td>
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<td>University, PO Box 789</td>
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<td>2548</td>
<td>University, PO Box 789</td>
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<tr>
<td>Albury, NSW 2640</td>
<td>PO Box 789</td>
<td>Tel: 02 6933 9238</td>
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<td><a href="mailto:sconnor@csu.edu.au">sconnor@csu.edu.au</a></td>
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kindly gave their contact details during the questionnaire last year. If there are any other adults who would be interested in taking part in a focus group, family unit interview or individual interview please contact Kate on kfreire@csu.edu.au.

**Do I need to provide consent for my child to take part?**
Yes. If, after reading the information sheet you are willing for us to ask your child’s permission to take part in the focus group, please fill out the enclosed consent form. Please return the signed consent form to your child's school by date.

**When is the focus group taking place?**

**Will someone from the school be running the focus group?**
No, Kate, the chief investigator will run the focus group. She is an experienced physiotherapist and mother. A teacher from the school will be present at all times during the focus group.

**Why are we doing the study?**
Very little is known about physical activity in families. For instance, we do not know why some families choose to do physical activity together and others do not. Children’s experiences and opinions have not been sought in this area and findings from this research will help provide valuable information about how families manage physical activity in their daily lives. This information will be useful to families, communities and governments to develop appropriate physical activity programs.

**What will happen to the results?**
Data from the focus groups will be used to guide the interviews. The study is part of a PhD project exploring physical activity in families and therefore the de-identified results will be published in a thesis and peer reviewed journals. If you are interested in the results of this study, please contact me via my email address (see first page) and I would be happy to provide you with a summary document once finished.
Will anyone know what my child draws and says?
No. You, your child and their school will not be identified in any part of the research. The researchers have not had access to any class lists from the school. All information collected from the focus groups will be securely stored in a locked filing cabinet in the locked office of the chief investigator, Kate or on a password protected computer at Charles Sturt University with access restricted to the researchers named on this information sheet. Your confidentiality will be maintained at all times. Your name and your child’s name will not be included in any material produced from the research or any other identifying information.

Does my child have to take part?
No. It is entirely up to you and your child. We will only ask those children whose parents have signed a consent form if they wish to take part in the focus group. If you do give consent, we will explain the study to your child (we have included a child information sheet for your information and so that you can discuss this with your child should you wish) and it is then up to your child if they wish to take part. Your child can withdraw from the focus group at any stage. If they decide to stop during the focus group, their answers up to that stage will still be included in the results as it will be difficult to recognize individual students on audio recordings.

Are there any risks associated with my child’s participation in this study?
We will be asking them to describe their experiences and opinions on performing physical activity with their parents (carers) and to join in discussion on this topic with other members of the group. As such, confidentiality and/or privacy cannot be assured regarding the information exchanged. Guidelines (Ground Rules) will be established at the beginning of each focus groups and your child is free to withdraw or opt out of any activity they do not wish to take part in.
Who should I contact if I have concerns about the conduct of this study?

Charles Sturt University’s Human Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer: Human Research Ethics Committee

Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Tel: 02 6338 4628
Email: ethics@csu.edu.au

Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Thank you for taking the time to read this information and consider the study.
This information sheet is for you to keep.
PARTICIPANT INFORMATION SHEET FOR ADULT FOCUS GROUPS, FAMILY UNIT INTERVIEWS AND IN-DEPTH INTERVIEWS

Research Title: Cross-generational physical activity: exploring the experiences of parent(s)/carer(s) and primary school aged children.

Dear Parent/ Carer

This is an invitation for you to take part in a study conducted by researchers at Charles Sturt University. The purpose of the research is to find out more about the physical activity that parents (carers) and children do together from the perspective of both the child and parent (carer).

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Tel: 02 6051 9238
rope_res@bigpond.com

Tel: 02 6933 4970
jcoyle@csu.edu.au

Tel: 02 6051 9238
soconnor@csu.edu.au

This research project is being undertaken by Kate Freire who is a student at Charles Sturt University.

Why have I been invited?

You kindly filled in your contact details on a questionnaire about cross-generational physical activity and gave us permission to contact you this year with regard to joining in a focus group or interview.

What does taking part involve?

I am running parent only focus groups, family unit interviews (parent and child interviews) and in-depth individual interviews. I would like to run the parent only focus groups first to help me guide data collection on the family unit interviews and in-depth interviews. All groups would run for approximately 60 minutes and be conducted at either Charles Sturt University or a private meeting room within a public facility.
The session will include discussion of your experiences, opinions and thoughts of doing physical activity with your children. You are invited to join as many of the three options (focus group, family unit interview or private interview) that you would like to take part in.

**Why are we doing the study?**
Very little is known about physical activity in families. For instance, we do not know why some families choose to do physical activity together and others do not. The findings from this research will help provide valuable information about how families manage physical activity in their daily lives. This information will be useful to families, communities and governments to develop appropriate physical activity programs.

**What will happen to the results?**
The study is part of a PhD project exploring physical activity in families and therefore the de-identified results will be published in a thesis and peer reviewed journals. If you are interested in the results of this study, please contact me via my email address (see first page) and I would be happy to provide you with a summary document once finished.

**Will anyone know what I say and write?**
No. You and your child will not be identified in any part of the research. The sessions will be audio taped and pseudonyms or codes will be used on the transcripts of the sessions. All information will be securely stored in a locked filing cabinet in the locked office of the chief investigator, Kate Freire or on a password protected computer at Charles Sturt University with access restricted to the researchers named on this information sheet. Your name will not be included in any material produced from the research or any other identifying information.

**Do we have to take part?**
No. It is entirely your decision. You can decide whether or not to take part. You can withdraw at any time. If you decide to stop during a session has begun, your answers up to that stage will still be included in the results as it may be difficult to recognize individuals on audio recordings.
Are there any risks associated with our participation in this study?
We will be asking you to describe your experiences and opinion on performing physical activities with your child. In the adult focus group and family unit interviews confidentiality and/or privacy cannot be assured regarding the information that is exchanged. Guidelines (Ground Rules) will be established at the beginning of each focus group or family unit interview and you are free to withdraw or choose what activities you wish to take part in.

How do I become involved in the study?
If you are interested in participating in the study by taking part in either a parent only focus group, family unit interview or individual in-depth interview; or you have any further questions regarding the study please contact Kate Freire on kfreire@csu.edu.au or 02 6051 9266

Who should I contact if I have concerns about the conduct of this study?

Charles Sturt University’s Human Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795
Tel: 02 6338 4628
Email: ethics@csu.edu.au

Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Thank you for taking the time to read this information and consider the study.
Appendix M
Study Two
Parent consent form
Parental consent form
Adult Consent Form – focus group sessions
Research Project: Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children.

Principal Investigator | Research Supervisor | Research Supervisor | Research Supervisor
---------------------|---------------------|---------------------|---------------------
Kate Freire          | Prof. Julia Coyle   | Dr. Rod Pope        | Dr. Simone O'Shea    
School of Community Health, CSU. | Office of Dean of Students, Charles Sturt University | Exersafe Pty Ltd | School of Community Health, CSU. 
Tel: 02 6051 0238 | Tel: 02 6933 4970 | Tel: 02 6961 0238 | Tel: 02 6051 6238 
Email: kfreire@csu.edu.au | Email: joyble@csu.edu.au | rpope_res@bigpond.com | scoconnor@csu.edu.au 

This research project is being undertaken by Kate Freire who is a PhD student at Charles Sturt University.

In giving my consent I acknowledge that:
1. I have read the Information Sheet which provides the opportunity to discuss the information with the researchers.
2. Any questions about the project have been answered to my satisfaction.
3. I am aware that the research will involve taking part in a 60 minute focus group session with other participants and due to the nature of this session my confidentiality and/or privacy cannot be assured regarding the information exchanged within the session.
4. I understand that any information collected about me as well as my personal details, is confidential, and that no information about me (including my name) that might reveal my identity will be published.
5. I understand that I am free to withdraw from the study at any time before or during the interview without needing to provide a reason.
6. I understand that if I have any complaints or concerns about this research I can contact: Executive Officer, Human Research Ethics Committee, Office of Academic Governance, Charles Sturt University, Pancorama Avenue, Bathurst NSW 2795, Tel: 02 6338 4628, Email: ethics@csu.edu.au. Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

I agree to participate in the above-named study

Signed

Name (please print)

Date

www.csu.edu.au

ORCOS Provider Numbers for Charles Sturt University are 00002F (NSW), 01847C (AC) and 005600 (ACT). ABN: 53 724 106 551 

395
Parental Consent Form
Research Project: Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children.

I (print name) ............................................................... give consent to the participation of my child (print name) ............................................................... in the above research project at (please provide name of school) ............................................................... school in Year ......

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<td>Email: r <a href="mailto:pope_res@bigpond.com">pope_res@bigpond.com</a></td>
<td>Email: <a href="mailto:sosconner@csu.edu.au">sosconner@csu.edu.au</a></td>
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</table>

This research project is being undertaken by Kate Freire who is a PhD student at Charles Sturt University.

In giving my consent I acknowledge that:
1. I have read the Adult Information Sheet which provides the opportunity to discuss the information and my child’s involvement in the project with the researchers.
2. Any questions about the project have been answered to my satisfaction.
3. I have discussed the project with my child and understand that my child will be asked for their assent before participation in the project.
4. I understand that my child’s participation in this project is voluntary; a decision not to participate will in no way affect their academic standing or relationship with the school and they are free to withdraw their participation at any time.
5. I understand that my child’s involvement is strictly confidential and that no information about my child will be used in any way that reveals my child’s identity.
6. I understand that my child will be asked to take part in the study in the next few weeks and if I am happy for my child to take part will return the consent form to the school as soon as possible.

Signed ..........................................................

Name (please print) ..........................................................

Date ..........................................................

Charles Sturt University’s Human Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer, Human Research Ethics Committee, Office of Academic Governance, Charles Sturt University, Panorama Avenue, Bathurst NSW 2795, Tel: 02 6338 4628, Email: ethics@csu.edu.au. Any issue you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

www.csu.edu.au
CRICOS Provider Numbers for Charles Sturt University are 00005F (NSW), 01047C (VIC) and 02503D (ACT). ABN 83 679 708 551
Appendix N

Study Two

Child assent form
Child Assent Form

Cross Generational Physical Activity: exploring the experiences of parents and primary school aged children.

Please read the seven sentences below and tick the box beside each sentence if you agree with it.

1. I have talked to Kate about what she is asking us to do □
2. I would like to share my ideas and thoughts on doing physical activity with my parents or carer □
3. Kate has told me that she will audio record our session so that she can listen to it later, write it down and not forget anything that I tell her. That is OK □
4. I understand that my writing and drawings will be kept safely for seven years □
5. Kate will talk about and write reports on what we discuss today so that people can learn what children think about cross-generational physical activity □
6. I understand that my name will not be used when talking or writing about this research. Instead Kate will use a pretend name or code and this means that no-one will be able to identify me from what I say □
7. I understand that it will take about one hour to do all the activities but it’s up to me how much I join in and I can say if I don’t wish to join in an activity or stop □

(Child’s signature or name)........................................................................
Ground Rules

1. Everyone gets a chance to speak and has a right to express their opinion.

2. It is not a test.

3. There are no right or wrong answers.

4. It is not expected that group members agree on all points of discussion.

5. It is not expected that group members will have had the same experiences.

6. Please let someone finish what they have to say, before giving your perspective on the discussion.
Appendix P
Study Two
Definition of physical activity

Physical activity might include:

- **Transport activity**: such as walking or riding a bike to school
- **Exercise and sports**: such as walking, running, basketball, netball, football, touch football, swimming, dancing, exercise classes
- **Recreational Activities**: such as bush walking, chasies, throwing a Frisbee, kicking a ball, rollerblading, playing in the park, active games such as twister
- **Helping at home/chores**: such as vacuuming, cleaning, gardening

As you can see there are many different types of physical activity. It is any activity where you move about.

Watching television or playing non active computer games where you sit still (and not move about) is **not** physical activity and we will not be asking about them today.
Appendix Q
Study Two
Semi-structured interview guides
Child Focus Group Guide

- First name introduction of all group members (me, physio, mum)
- Purpose – chat about your experiences of doing PA with your parents. I know that it is likely that there will be some experiences that are similar to your friends and also some differences and that’s to be expected and doesn’t mean that your experiences are any more or less important or any more or less right because there isn’t a right or wrong here. I am trying to find out more about CGPA in general what good about it what not so good about it. Up to now they have mostly only spoken to adults about this and I think that that isn’t a good thing because it means we only hear what the adults have to say. So today I want to hear what you think, feel and have to say about doing PA with your parents.
- Information sheet
- Questions?
- Ground rules (see attachment) for discussion – read out ground rules and ask if any suggestions for more.
- Definition of PA
- Assent form

Activity One – Brainstorm - types of physical activity children do with their parents.

Activity Two – Write +/- draw
“Think about doing PA with your parent or parents. Write and draw your experience with cartoon bubbles to explain what you are thinking”. or with bubble thoughts on CGPA.

Activity Three – talk through drawings and bubble thoughts/feelings
- Why do you do this activity with you parents?
- Has anyone else thought this
- How does it make you feel?
- How does doing the activity with your parents differ to doing it with your siblings/friends, individually etc?
- Are you and your parents equally skilful/fast at this? How do you manage the difference? Can you think of any other examples when there has been a difference in skills, speed etc.

Activity Four – quotes
- What do you think about what this person has said?
- Is your experience similar or different?
- How does it make you feel?
- Who do you think said that – a parent or child and why?

Wrap Up
- Ask if the group has covered everything they would like to tell the researcher about CGPA?
- Ask if the researcher can keep the drawings and writings. Take scan if necessary.
Adult Focus Group Guide
The following guide will be used during adult focus groups to gain an understanding of CGPA from the perspective of the participating parents. The guide has been designed to allow parents to use their ideas and knowledge rather than pre-defining their response.

Introduction
- First name introduction of all group members (including facilitator).
- Purpose of the project – “it is part of a bigger project trying to find out more about cross-generational physical activity and because cross-generational involves physical activity between parents and children it is really important to find out what both parties, children and parents, think about it”.
- Facilitator explain their credentials
- Explain happy to answer any questions
- Ground rules (see attachment) for discussion – read out ground rules and ask if any suggestions for more.
- Brief explanation of what physical activity can include and provide prompt guides for duration of focus groups (see attachment)
- Brief summary of what the focus group will involve: e.g. brainstorming, writing, discussion and remind participants that the session will be recorded
- Explain happy to answer any questions
- Read and sign consent form

Activity One – Brainstorm - types of physical activity family unit does together.
Participants to be provided with pens and to list on a white board or piece of paper all the activities they do together (emphasis here on what they do physically together not watching each other).

Activity Two – Pick one (or several) types of physical activity done together and talk about it.
Eg. Let’s talk about walking to school together
Prompts
- How does it start?
- Who initiates the activity?
- Is there a set routine?
Activity Three – discussion of quotes from child and adult survey responses

Prompts
- What do you think about what this person has said?
- Is your experience similar or different?
- How does it make you feel?
- Who do you think said that – a parent or child and why?

Activity Four – mapping influences of CGPA
What makes you want to do PA with your children and what doesn’t? Participants to map or list influences as a group on a white board/large piece of paper.

Wrap Up
- Ask if the group has covered everything they would like to tell the researcher about CGPA?
- Take a photo of writings if on white board
Appendix R

Study Two

Initial child and parent maps of cross-generational physical activity
Appendix S

Study Two

Exemplars of cameos
Cameo: Child: Liam

I’m in Year 5 and I have an older sister, Emily, who hates cricket and Angus my brother is younger than me in Year 4.

I like sport and I’m good at it. I play a lot of sport in the garden with Angus and Dad. Angus and I will go and ask Dad, we start it, he doesn’t. Sometimes we have to wait for him to be ready to play and so sometimes we play together. When Dad plays it’s more controlled. When it’s just Angus and me we smash it all over the place and get annoyed when we get out. I don’t get as angry when Dad’s there and nor does my brother.

It’s practising we don’t keep score. It’s not like playing in a team where it’s serious, there’s no final in the garden. When you’re mucking around in the garden you can try something but you can’t do that in a game because you might get out. In the garden it doesn’t matter if you get out as we don’t score so you’re practising and you’re improving. Sometimes I do get annoyed because I keep getting out. Dad can bowl faster than me; I’m not as good as him yet. He knows that I want him to bowl hard but it’s difficult and means that I can get out easily. Dad still goes easy on Angus, like he did to me when I was smaller but he can’t do that anymore because I’m getting bigger and better. I like it being a bit harder, I wouldn’t want him to go easy on me know, I like the challenge.

We don’t talk much when we play cricket because we’re concentrating on the game but sometimes, on Sundays, Dad goes to get the paper early and I ask to go too. We talk about sport. It’s a good time to talk as I get to talk about my thing. On Sundays, when we have dinner as a family my Mum and sister don’t like talking about footy so they change the conversation. I like having time with my Dad.
Cameo: Parent: Veronica

I have three children, 2 daughters who in Year 1 and 5 at school and my son is in Year 7. I just find I don’t have time to do exercise myself, let alone do cross-gen with the kids. We do go for a walk about once a week as a family. We try to do a lot of things together as family. We’ll have lunch and dinner together at the weekend, which is lovely as we hear about their days. The conversations we have whilst walking are really similar to the conversations we have at meal times. We are really busy during the week, I work part-time and then one or all of the kids have after school activities four nights a week. I find I have to plan it, I put it up on the board, what is happening and what jobs the kids are doing so that everyone knows what is going on. When I dry whilst my daughter washes up, that’s simply because it has to be and that’s the way it works. The family walk doesn’t get planned though that’s more opportunistic. My husband works long hours. I feel that because I’m home earlier, I have to come home and sort everything out. He comes home late and joins in when he can. I don’t think it is my role to entertain the kids, they can think of games to play together and they do that.