THE APPLICATION OF TRANSFORMATIONAL LEADERSHIP THEORY TO PARENTING AND ADOLESCENT HEALTH PROMOTION

by

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Abstract

The overall purpose of my dissertation was to apply a framework of parenting that draws from transformational leadership theory to better understand the influence of parents on the health-enhancing cognitions and behaviours among adolescents. *Transformational parenting* is a type of parenting that elevates, inspires and challenges youth to achieve higher levels of functioning, and is conceptualized as the extent to which parents interact with their children through the demonstration of *idealized influence*, *inspirational motivation, intellectual stimulation*, and *individualized consideration*. In chapter 1, an overview is provided of the importance of adolescent health and well-being, and the role of parents in adolescent health promotion. In addition, chapter 1 presents a synopsis of validity theory and an overview of the subsequent chapters within this dissertation. Following this, an extensive review of both the transformational leadership and parenting literatures is presented and the conceptual similarities between parenting and leadership are highlighted (chapter 2). In this theoretical and integrative review, it is argued that extending transformational leadership theory to parenting presents an opportunity for developing a useful conceptual model for (a) understanding the relationships between parenting and adolescents' health behaviours, and (b) supporting the development of parenting interventions. The development of a measure of transformational parenting for use with adolescents is presented in chapter 3. First, potential items were generated and evidence for content validity was demonstrated through the use of focus groups with parents and adolescents. Evidence for several aspects of construct validity of measures derived from the Transformational Parenting Questionnaire (TPQ) is provided. Positive relationships between mothers' and fathers' transformational parenting behaviours, adolescents' self-regulatory efficacy for physical activity

and healthy eating, and life satisfaction are also demonstrated. The results of a pilot intervention guided by transformational leadership theory, are presented in chapter 4. Finally, in chapter 5, an overview is provided of the novel contributions of the research as well as limitations and future directions. In conclusion, the research presented within this dissertation demonstrates that transformational leadership theory represents a useful paradigm to better understand, and potentially foster, health-enhancing cognitions, behaviours and well-being among adolescents.

Preface

A version of chapter 2 has been published. The citation for this publication is: Katie L. Morton, Julian Barling, Ryan R. E. Rhodes, Louise C. Mâsse, Bruno D. Zumbo and Mark R. Beauchamp (2010). Extending transformational leadership theory to parenting and adolescent health behaviours: An integrative and theoretical review. *Health Psychology Review*, *4*, 128-157. My contribution was the formulation of the research questions and manuscript preparation.

A version of chapter 3 has been accepted for publication. The citation for this publication is: Katie L. Morton, Julian Barling, Ryan R. E. Rhodes, Louise C. Mâsse, Bruno D. Zumbo and Mark R. Beauchamp (in press). The application of transformational leadership theory to parenting: Questionnaire development and implications for adolescent self-regulatory efficacy and life satisfaction. *Journal of Sport and Exercise Psychology*. My contribution was in the formulation of the research question, the design of the study, the data collection and analyses and interpretation of the results, and the manuscript preparation. Dr. Julian Barling, Dr. R. E. Rhodes, and Dr. Louise C. Mâsse and Dr. Mark R. Beauchamp contributed to the manuscript preparation and Dr. Bruno D. Zumbo contributed to the data analyses. This research project (H09-02011) was approved by the UBC Behavioural Research Ethics Board on September 29th 2009 and also the Vancouver School Board.

Chapter 4 involves a pilot trial of a transformational parenting intervention. My contribution was in the formulation of the research questions, the design of the study, the design of the workshop and handbook, the data collection and analyses, and the interpretation of the results. Dr. Mark R. Beauchamp delivered the workshop to parents. This research project (H09-03424) was approved by the UBC Behavioural Research Ethics Board on May 31st, 2010.

Table of Contents

List of Tables

List of Figures

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Chapter 1: Introduction

Adolescent Health and Well-Being

Adolescence is a critical developmental phase between childhood and adulthood that has long term implications for subsequent health and well-being (Call et al., 2002; Kleinert, 2007). Although adolescence is often defined as ages 10-18 (cf. American Psychological Association (APA), 2002), there currently exists no standard definition of 'adolescent'. The classification of adolescence varies across agencies and organizations (cf. Grace & Patrick, 1994), and although it is most often captured as an age range, it can also be defined by factors such as physical, cognitive and social development. Nevertheless, adolescence is often regarded as one of the healthiest periods across the lifespan, characterized by low rates of morbidity and mortality (Ozer, Park, Paul, Brindis, & Irwin, 2003). However, it is becoming increasingly recognized that health is not merely defined as the absence of disease (cf. World Health Organizations (WHO), 1948), and that a narrow definition of health based solely on disease prevalence fails to account for conditions (e.g., inactivity) that may result in deleterious disease-related outcomes many years later. Indeed, health-related behaviours that begin in adolescence, such as sedentary activities, smoking and binge drinking, can lead to a variety of health concerns in later life (e.g., Dietz, 1998; Georgiades & Boyle, 2007; Viner & Taylor, 2007). To date, the primary focus of adolescent health research has been on understanding the development and maintenance of *health-compromising* and *problem behaviours*, such as substance abuse (Hawkins, Catalano, & Miller, 1992; Hingson, Heeren, & Winter, 2006; Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008) and sexual risk-taking (Kirby, 2001; Shew et al., 2006).

Although a focus on health-compromising and problem behaviours is important, adolescence also presents an opportunity to develop positive habits that prepare youth to be

healthful adults (Call et al., 2002; Park et al., 2001). Thus, researchers have expanded their focus to examine *health-enhancing* behaviours during adolescence, such as regular physical activity (Hallal, Victora, Azevedo, & Wells, 2006) and healthy eating (Story, Neumark-Sztainer, & French, 2002) and *positive* indicators of health and well-being, such as subjective well-being (Park, 2004), with an overall goal of achieving optimal levels of adolescent health (Peterson, 2006).

It is argued that health-enhancing behaviours (e.g., physical activity) and positive indicators of adolescent health (e.g., life satisfaction) deserve particular attention. Physical activity and healthy eating represent two of the most salient health-enhancing behaviours for adolescents (e.g., Pearson, Atkin, Biddle, Gorely, & Edwardson, 2009), and thus were the focus of attention within this dissertation. For example, exercise and dietary habits established in adolescence not only have immediate benefits for physical and mental health (Baranowski et al., 2000; Dunn, Trivedi, & O'Neal, 2001; U.S. Department of Health and Human Services, 2000), but also contribute towards a reduced risk of health problems that extend across the lifespan (Baker, Olsen, & Sørensen, 2007; Berenson et al., 1998; Raitakari et al., 2003). Consistent with this perspective, the World Health Organization (WHO, 2003) contends that the *prevention* of many lifestyle diseases (i.e., Type 2 diabetes, obesity) through physical activity and healthy lifestyles represents "the most cost effective and sustainable way to tackle these problems and to support positive social development" (p. 1). Furthermore, components of subjective well-being (i.e., life satisfaction) have received increasing attention as indicators of optimal functioning among adolescents (Huebner, 2004). Life satisfaction is defined as the subjective appraisal of the quality of one's life (Diener, Suh, Lucas, & Smith, 1999) and in adolescence, elevated levels of life satisfaction are associated with a host of adaptive outcomes, such as positive psychosocial

functioning (Fogle, Huebner, & Laughlin, 2002; Suldo & Heubner, 2006), enhanced social relationships (Huebner, Funk III, & Gilman, 2000) and fewer emotional and behavioural problems (Suldo & Huebner, 2004).

Although increasing adolescent participation in habitual physical activity has been identified as a public health priority (Canadian Fitness and Lifestyle Research Institute, 2002), the fact remains that less than 10% of Canadian children and youth are meeting the new Canadian physical activity guidelines of at least 60 minutes of moderate-to-vigorous physical activity (MVPA) per day (Active Healthy Kids Canada, 2011). Similarly, less than 25% of high school students reported eating fruits and vegetables five or more times daily (Centers for Disease Control, 2010). In addition, life satisfaction has been identified as an important and relevant aspect of adolescent development and functioning (Antaramian, Huebner, & Valois, 2008). However, it has been reported that life satisfaction tends to decrease over the course of adolescence (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007). Taken together, adolescence represents a logical time for research initiatives and interventions that strive to foster health-enhancing behaviours and increased well-being.

The Importance of Parents in Adolescent Health and Well-Being

A central factor in adolescents' health and well-being corresponds to their interactions within their social environments. In particular, research has demonstrated that family members, especially parents, are key to developing a home environment that fosters healthful physical activity (Gustafson & Rhodes, 2006; Sallis, Prochaska, & Taylor, 2000; Trost et al., 2003) and eating (Harrington, Franklin, Davies, Shewchuk, & Binns, 2005; Videon & Manning, 2003) among youth. In addition, parents have an important role to play in the development of subjective well-being (especially life satisfaction) in their adolescent children. For example, more positive

relationships with parents (Gilman & Heubner, 2006) and parental social support (Suldo & Heubner, 2004) are consistently associated with greater life satisfaction.

Adolescence presents a number of unique opportunities and challenges associated with this life stage, especially for parents. Family dynamics change significantly as a child transitions through adolescence (Steinberg, 2001). As adolescents progress through this developmental period they show increased dissatisfaction with family life as a whole (Bergman & Scott, 2001) and tend to report lower levels of family cohesion (Feldman & Gehring, 1990; Seiffge-Krenke, 1999). In addition, adolescence is characterized by a striving for greater independence and autonomy (Spear & Kulbok, 2004). Interestingly, maintaining connectedness and attachment to parents during this developmental period has been identified as being equally important (Collins & Laursen, 2006; Resnick, Harris, & Blum, 1993). This suggests that parents have a challenging role in facilitating the development of positive health behaviours and well-being in adolescents, by (a) recognizing adolescent developmental needs for greater autonomy, independence and decision making, and (b) maintaining positive and supportive relationships throughout the transition from childhood into adulthood. Taken together, the challenge for researchers and practitioners is to understand the effects of different parenting behaviours and practices on adolescent health-related outcomes and to ultimately develop efficacious programs that enable adolescents to exercise their freedom and independence in a way that promotes health and well-being and facilitates the healthful transition into adulthood.

Within this dissertation, *transformational leadership* is introduced as a viable framework for understanding, evaluating and fostering parenting behaviours in relation to adolescent health and well-being. Before reviewing the parenting and leadership literatures and introducing the 'transformational parenting' construct, it is important to provide a brief overview of *validity*

theory and the process of construct *validation*. Given that this dissertation involves the conceptualization and measurement of a new psychological construct (transformational parenting), it is important to describe the process of validation and elucidate the contemporary theory of validity that underpins the studies presented within this dissertation.

Validity Theory and the Process of Validation

Support for a hypothesized construct (i.e., transformational parenting) is acquired through the *process* of construct validation (Messick, 1989, 1995; Smith, 2005). This process is ongoing and not limited to any one study or observation. It is often argued that the primary goal of instrument development is to "create a valid measure of an underlying construct" (cf. Clark & Watson, 1995, p. 309). However, contemporary proponents of validity theory contend that it is actually the participants' responses, and the inferences and interpretations made from those responses (not the questionnaire/instrument itself) that is subject to validation (Hubley & Zumbo, 1996; Messick 1995). This reflects a gradual conceptual shift in validity theory, which suggests that the focus should lie in the investigation of the properties of a construct, rather than simply providing evidence that an instrument is useful for a particular purpose. Furthermore, it is not only the scores that derive from the instrument that need to be validated, but the theory behind the inferences made from these scores (Smith, 2005). Therefore, the data "must be used to validate, reject or revise the theory" (Hubley & Zumbo, p. 212).

In this dissertation, a *unified* view of validity (Messick, 1989) is adopted, in which validity is defined as "an integrated evaluative judgement of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (p. 13). That is, it is not the instrument itself that is being validated, but the inferences based on scores derived from the measures of

interest. At the core of Messick's unified view of validity, lies *construct validity* which involves "the evidence and rationales supporting the trustworthiness of score interpretation in terms of explanatory concepts that account for both test performance and score relationships with other variables" (Messick, 1995, p.743).

A critical first step in the validation process, and the focus of chapter 2 of this dissertation, is to articulate the basic construct as clearly and as thoroughly as possible, by developing a precise and detailed conception of the construct one is intending to measure (Clark & Watson, 1995). This involves reviewing the relevant literature to see how others have addressed the same types of research questions. For example, in relation to the development of a measure of *transformational leadership* for use in the parenting domain, a review should include previous attempts to conceptualize parenting styles and behaviours (cf. Darling & Steinberg, 1993) and transformational leadership (cf. Bass & Riggio, 2006). In addition, the review should be broad enough to encompass a review of constructs that the target construct (i.e., transformational parenting) would be hypothesized to be related to (e.g., adolescent health-related cognitions and behaviours). Specifically, Smith (2005) emphasizes that the "articulation of how the theory of the construct is translated into informative hypotheses" is an important part of the construct validity research process (p. 399). In the context of this dissertation, this enables a thorough and detailed conceptualization of the specific content and range of transformational parenting, such as what parenting strategies and behaviours it encompasses, and how this construct extends or adds to existing parenting theories. Without an articulated theory, there is no construct validity (Cronbach & Meehl, 1955). Moreover, if construct validity is not established, the instrument, and more importantly the inferences made from it are meaningless.

A detailed conception of the target construct provides evidence for the *content* aspect of construct validity (cf. Messick, 1995). In addition to content relevance and representativeness, the unified view of validity suggests that several sources of evidence need to be integrated for the investigation of construct validity. In line with Messick (1989, 1995) this dissertation investigates three other aspects of construct validity (or sources of evidence), namely (a) the *substantive* aspect of validity (evidence based on response processes of participants), (b) the *structural* aspect of validity (evidence based on the internal structure of the instrument, e.g., factorial validity), and (c) the external aspect of construct validity (evidence based on relations to other variables, i.e., applied utility and criterion relevance). These processes are described in greater depth in chapter 3 of this dissertation.

Finally, as Downing (2003) contends, "validity is never assumed and is an ongoing process of hypothesis generation, data collection and testing, critical evaluation and logical inference" (p. 831). Therefore, as part of chapter 4, we examine the effectiveness of a pilot intervention study grounded in transformational leadership theory, designed to enhance parents' transformational behaviours and ultimately bring about improved adolescent health-related outcomes. An intervention study, comprising an experimental design, is a unique opportunity to subject the guiding theoretical framework (transformational parenting) to an experimental test. From a construct validity perspective, "multiple tests of construct validity, using different criteria assessed in different ways, is a normal part of the process" (Smith, 2005, p. 397). During this process, if repeated evidence consistent with the same hypothesis is found, this lends support to that hypothesis (even though it can never be fully proven), thus providing further evidence of construct validity.

Purpose and Structure of the Dissertation

The overall purpose of this dissertation is to apply an innovative framework of leadership to the parenting domain, with a view to understand and potentially foster *health-enhancing* cognitions and behaviours and well-being in adolescents. As discussed above, a crucial first step in the validation process is to provide a detailed conceptualization of transformational parenting and how it is theorized to be associated with adolescent health. With this in mind, chapter 2 is provided as an integrative and theoretical review that outlines how the extension of transformational leadership theory to parenting represents a viable framework for understanding and potentially fostering adolescent health. Following this, the development of a conceptually sound and psychometrically robust measure of transformational parenting for use with adolescents is presented in chapter 3, and initial evidence for construct validity is provided. While chapters 2 and 3 can be considered as stand-alone papers (a version of chapter 2 is published in *Health Psychology Review* and a version of chapter 3 has been accepted for publication in the *Journal of Sport and Exercise Psychology*), these chapters also form part of a larger program of research, with sequential progression across the chapters demonstrated within this dissertation. Subsequently, an evidence-based pilot intervention designed to facilitate transformational parenting in parents of inactive teens, with a goal of increasing physical activity behaviours and enhancing adolescent life satisfaction, is presented in chapter 4. Finally, the novel contributions and limitations of the presented research, as well as future directions are provided in the concluding chapter (chapter 5).

Chapter 2: Extending Transformational Leadership Theory to Parenting and Adolescent Health Behaviours: An Integrative and Theoretical Review

Adolescence is a critical period for the adoption of health behaviours that have long term consequences (Williams, Holmbeck, & Greenley, 2002), as it is during this life stage that many positive health-enhancing behaviours such as diet and exercise are consolidated, and important health-compromising behaviours such as smoking and substance abuse first emerge. While research has uncovered a range of predictors associated with adolescent health behaviours (Jessor, Turbin, & Costa, 1998; Neumark-Sztainer, 1999), arguably the family remains one of the most influential social determinants of adolescent health (Sallis & Nader, 1988).

Family members, especially parents, represent potential models of appropriate behaviour, gatekeepers to health-related opportunities, and major sources of support for diverse health-related values and behaviours. Of particular interest, a growing body of research has demonstrated that the influence of parents on the behaviours and decisions of their children does not diminish as children mature into adolescents (Blum & Rinehart, 2000; Steinberg, 2001). At the same time, the transition from childhood into adolescence often coincides with a decline in physical activity (Boreham & Riddoch, 2001; Kimm et al., 2002), the adoption of less healthy diets (Lytle, Seifert, Greenstein, & McGovern, 2000; Neumark-Sztainer, 1999) and an increased incidence of illicit drug use, smoking and alcohol consumption (Madu & Matla, 2003). Clearly, adolescence represents a major foundation for lifelong health behaviours, and identifying and understanding its substantive influences is of critical importance.

In this chapter, a brief review of the adolescent health literature as it relates to parenting styles and practices is provided. The scope of this review is limited to youth aged 10-18 (APA, 2002), and only includes studies that discuss actual health behaviours (e.g., not mental health

outcomes, such as depression), and excludes papers that focus on parenting and adolescent health behaviours in clinical populations (e.g., adolescents with diabetes). Bass and Riggio's (2006) transformational leadership theory is introduced, and an explanation of how the adoption of *transformational parenting* behaviours may positively influence adolescent health is provided. Indeed, this chapter is not intended to be a systematic review of the entire parenting literature, but an integrative and theoretical review that explains how transformational leadership theory (Bass & Riggio, 2006) can be used as a viable and conceptually salient framework for understanding and potentially fostering parenting behaviours that positively influence adolescent health.

Parenting Styles and Parenting Practices

Research on parenting has its origins in developmental psychology, where researchers examined the influence of distinct types of parenting styles (e.g., typologies characterized by responsiveness and demandingness) and specific parental practices (e.g., parental monitoring) in relation to a vast range of developmental outcomes. Within this literature, researchers have often used the labels 'parenting styles' and 'parenting practices' interchangeably (Maccoby & Martin, 1983); however it has been suggested that to better understand the processes of parental influence, it is essential to distinguish between the two terms (Darling & Steinberg, 1993). Parenting styles differ conceptually from parenting practices insofar as parenting styles are pervasive across a wide range of parent-child interactions, whereas parenting practices are context-specific. In this section, the most prominent findings in the parenting literature as they pertain to adolescent health behaviours are considered, using Darling and Steinberg's (1993) distinction between parenting styles and practices. The selection of topics is not intended to be exhaustive, but instead represents the most salient areas in the parenting psychology literature where transformational leadership theory may be fruitfully applied.

Parenting Styles

Parenting styles represent "constellations of parental attitudes, values, practices and non-verbal expressions that characterize the nature of parent-child interactions across diverse situations" (Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997, p. 507-508). Early writing on parenting styles examined numerous dimensions, including responsiveness/ unresponsiveness (Freud, 1933), democratic/autocratic (Baldwin, 1948) and restrictive/ permissive (Becker, 1964). However, perhaps the most widely-used conceptualization of parenting styles to date is Baumrind's (1968, 1971) framework. In Baumrind's (1968) seminal conceptualization of parenting styles, the values and beliefs parents hold about their roles as parents help to define and shape the interactions that take place with their children. Baumrind conducted extensive observations and interviews with children and their parents, and identified three primary parental typologies that incorporated a diverse range of behaviours. These three typologies correspond to authoritative, authoritarian, and permissive parenting. *Authoritative* parenting is characterized as being firm, involved, affectionate and respectful of the child. Authoritative parents have high maturity demands of their children, however these demands are fostered by induction (explanation of their behaviours), and the encouragement of independence. In comparison, *authoritarian* parenting emphasizes obedience with few explanations of rules or expectations. Authoritarian parents are strict and assert power when their children misbehave, and are neither warm nor responsive to their children. Finally, *permissive* parenting is characterized by excessively lax behavioural expectations and maturity demands, whereby parents' lack control and allow the child to behave independently.

Maccoby and Martin (1983) refined Baumrind's original conceptualization by considering parenting styles as a reflection of two important orthogonal dimensions, namely *responsiveness*

and *demandingness*. Responsiveness refers to parental attention to children's needs by encouraging individuality and self-regulation, whereas demandingness emphasizes the enactment of disciplinary efforts when needed. According to Maccoby and Martin (1983), (a) authoritative parenting occurs when parents display high levels of both responsiveness and demandingness, (b) authoritarian parenting occurs when parents display high levels of demandingness and low levels of responsiveness (c) *indulgent permissive* parenting occurs when high levels of responsiveness and low levels of demandingness are provided, and (d) *neglectful permissive* parenting occurs when parents are neither responsive nor demanding.

These typologies of parenting styles have been applied extensively within the parenting literature to explain and predict a broad range of adolescent health behaviours (for a more comprehensive review of parenting styles and their impact on adolescent health behaviours, see Newman, Harrison, Dashiff, & Davies, 2008). However, only a very small number of studies have examined parenting styles in relation to adolescent *health-enhancing* behaviours such as physical activity and dietary behaviours. For example, only a single study by Schmitz et al., (2002) examined the influence of parenting styles in relation to adolescent physical activity behaviours. This study found that perceptions of authoritative parenting were associated with greater physical activity (in girls only). Similarly, only a small number of studies have examined adolescents' perceptions of parenting styles in relation to healthy eating and dietary practices (Kim et al., 2008; Kremers, Brug, de Vries, & Engels, 2003). Nonetheless, a consistent pattern across these studies was that adolescents' perceptions of authoritative parenting were found to be associated with the most adaptive responses.

Classifying health-related behaviours and practices as *health-enhancing* and *health-compromising* has been widely conceptualized in the adolescent health literature (Jessor et al.,

1998; Schwarzer & Luszczynska, 2008). The majority of studies on parenting styles have focused on adolescent health-compromising behaviours, such as drug use (Baumrind, 1991a), smoking onset (Castrucci & Gerlach, 2006), alcohol consumption (Simons-Morton, Haynie, Crump, Eitel, & Saylor, 2001) and sexual risk taking (Heubner & Howell, 2003). In general, this body of research indicates that adolescents whose parents are authoritative (demanding and responsive) are less likely to engage in substance use or sexual risk-taking than either those with authoritarian (demanding but unresponsive) or indulgent permissive (non-demanding but responsive) parents. Supporting Maccoby and Martin's (1983) conceptualization, adolescents with neglectful permissive parents are the most likely to engage in health-compromising behaviours (Igra & Irwin, 1996).

Health-Related Parenting Practices

Parenting practices have been conceptualized as context-specific acts of parenting (Darling & Steinberg, 1993) that are best understood as operating in fairly constrained domains, such as academic achievement, peer-group affiliation, and in relation to health behaviours. Darling and Steinberg (1993) argued that the relevance of parenting practices depends on the specific outcome of interest. The parenting practices discussed in the following section include parental monitoring (e.g., tracking and structuring contexts), parent-adolescent communication (e.g., discussing values and expressing support) and parental involvement (e.g., engagement and modelling). These are the most extensively studied parenting practices pertaining to adolescent health behaviours.

Parental monitoring. Parental monitoring involves attention to and tracking of childrens' whereabouts, social activities, and peer relations. In relation to health-enhancing behaviours, parental monitoring is an important contributor to *pre-adolescent* children's health. For example,

greater monitoring of dietary intake and physical activity by parents is associated with improved health practices in younger children (Arredondo et al., 2006). In addition, obesity research in pre-school children has demonstrated that parents are able to mitigate their childrens' sedentary behaviours by monitoring their television use (Dennison, Erb, & Jenkins, 2002). In spite of the benefits of parental monitoring for young children, studies on the effectiveness of parental monitoring in relation to adolescent health-enhancing behaviours are limited. One study found that moderate levels of parental monitoring are associated with the lowest levels of unhealthy eating behaviours among overweight adolescents (Mellin, Neumark-Sztainer, Story, Ireland, & Resnick, 2002). This suggests a possible curvilinear effect with either too much or too little monitoring resulting in deleterious eating outcomes. In relation to active lifestyles, a recent longitudinal study by Ornelas, Perreira, and Ayala (2007) found that parental monitoring did not predict physical activity behaviours among adolescents.

From the perspective of alleviating health compromising behaviours, research has demonstrated that parental monitoring is important in reducing smoking (Simons-Morton, Chen, Abroms, & Haynie, 2004), alcohol use (Webb, Bray, Getz, & Adams, 2002), drug use (Stephenson, Quick, Atkinson, & Tschida, 2005) and sexual risk taking (Li, Stanton, & Feigelman, 2000) among adolescents. In sum, this body of research suggests that parental monitoring is most often framed as a *protective* prevention strategy for adolescent's health-compromising behaviours, rather than a method to enhance health-enhancing behaviours. The fact that parental monitoring has not been found to predict adolescents' health-enhancing behaviours is perhaps unsurprising given that monitoring is considered detrimental to follower autonomy (Brey, 1999), and adolescence is a critical time for individuals to establish autonomy in order to regulate their nutrition and activity behaviours. Therefore, it seems reasonable to

question whether adolescents can (or should) be expected to respond positively to parental monitoring with greater health-enhancing behaviours.

Parent-adolescent communication. Communication is generally defined as "any messages or information passing between the members of a group of two or more" (Bienvenu, 1969, p. 117), and includes transmitting facts, feelings, attitudes, and beliefs between individuals. It is generally accepted that communication that is perceived as more positive (i.e., open, supportive and receptive) has a greater likelihood of fostering a positive parent-adolescent bond, and thus enhances parental influence over adolescents (Hawkins & Weis, 1985).

To date, no studies to our knowledge have examined the relationship between specific parental communication practices, and adolescent physical activity or dietary behaviours. Nonetheless, a study by Boone and Lefkowitz (2007) provides a particularly interesting insight into parent-adolescent communication and health-enhancing behaviours. They examined the communication patterns of a broad range of health topics discussed by mothers and their adolescent children, and found that mothers discussed health issues in different ways depending on the type of health-behaviour in question. For example, they spent far less time discussing nutrition and exercise topics than drugs and alcohol. Mothers in this study also discussed the negative consequences of poor nutrition and inactivity far less in their conversations with adolescents than the negative consequences of drug and alcohol use. Although no research to date has examined father-adolescent communication practices in relation to health-enhancing behaviours, these findings reflect a potential challenge for those concerned with public health; parents need to consider the salience of (illicit) health-compromising behaviours when interacting with their children, and *also* to foster awareness of the implications and importance associated with health-enhancing behaviours.

In a trend similar to that found in the parental monitoring literature, studies tend to focus on positive communication as a protective parenting practice designed to reduce the likelihood of adolescents engaging in health-compromising behaviours, such as sexual risk taking (Guilamo-Ramos et al., 2007), smoking onset (Beebe et al., 2008), alcohol consumption (Nash, McQueen, & Bray, 2005), and drug abuse (Caughlin & Malis, 2004). Despite evidence for the importance of positive communication practices as a protective parenting practice, several studies reported little or no association between parent-adolescent communication and adolescent health-compromising behaviours (Ennett, Bauman, Foshee, Pemberton, & Hicks, 2001). These contrasting findings are likely due to the differing operationalizations of communication strategies adopted by parents. For example, the *frequency* of sexuality communication is often associated with less sexual risk-taking (Somers & Canivez, 2003). However, in relation to smoking, the longitudinal effects of frequent communication have not been supported (Otten, Harakeh, Vermulst, Van den Eijnden, & Engels, 2007).

Beyond communication frequency, other studies have focused on the *quality* of parent-adolescent communication, such as the perceived *supportiveness* and *openness* of communication (Cable & Sacker, 2008; Kotchick, Dorsey, Miller, & Forehand, 1999). When parents are perceived as less supportive in their communication, and yet frequently engage in communication about sexual issues, adolescents tend to engage in more sexual risk taking than adolescents whose parents are perceived as supportive in their discussions of sexual health (Rodgers, 1999). This finding emphasizes the fact that frequency of communication alone is not sufficient to advance adolescent development; instead, the communication must also be perceived as supportive by adolescents (Harakeh, Scholte, de Vries, & Engels, 2005; Otten et al., 2007).

Parental involvement in health-related practices. The parental practices reviewed thus far have focused mainly on preventing adolescents from engaging in health-compromising behaviours. In the following section, those practices that reflect parental involvement in health-enhancing behaviours, in particular through parental modelling and social support are discussed.

One important way in which parents socialize their children and support their healthy psychological growth is by interacting with them, and being involved in their daily lives. Social learning theory provides one of the primary perspectives on socialization processes (Bandura, 1986). With respect to the socialization of health behaviours, social learning theory emphasizes that behaviour is learned through direct personal experience, as well as the observation of trusted others (i.e., role modelling). A vast amount of research has sought to examine the extent to which parents' un/healthy behaviours transfer to, and become internalized by, their children.

One area of enquiry that exemplifies this approach concerns studies that examine parents' physical activity levels as a correlate of adolescent physical activity behaviours. In general, this body of evidence suggests that there is either a weak or no association between parents' and adolescents' physical activity levels (Anderssen, Wold, & Torsheim, 2006; Trost et al., 2003). It has been suggested that simply modeling physical activity is not sufficient, as it does not remove important barriers to physical activity, such as transportation or associated costs (Trost et al, 2003). In addition, it would seem unrealistic to expect parental modeling to exert a major effect on adolescent health-behaviours given the competing influence of peer-modeling during this important life stage (Beal, Ausiello, & Perrins, 2001). Parenthetically, the perceived importance that parents place on physical activity, together with elevated levels of parental support, is a better predictor of adolescent physical activity than parental physical activity alone (Trost et al., 2003), suggesting that inactive parents can still influence their children's activity habits, as long

as they value the role of physical activity and support their children in leading active lifestyles. For example, adolescents who perceive their parents to be supportive of physical activity are more likely to lead active lifestyles (Anderssen & Wold, 1992; Neumark-Sztainer, Story, Hannan, Tharp, & Rex, 2003) relative to those who do not perceive parental support for physical activity. Similarly, parents' provision of a supportive eating environment at home enhances healthy eating behaviours (Satter, 1996).

While positive parental role modelling has limited effects on adolescents' physical activity behaviours, the modelling of negative behaviours by parents *does* translate into adolescents' engaging in health-compromising behaviours. Indeed, several studies have found that parental substance use is a significant predictor of adolescents' subsequent substance use (Ary, Tildesley, Hops, & Andrews, 1993; White, Johnson, & Buyske, 2000). Consistent with the tenets of social learning theory (Bandura, 1997), the degree of affiliation (or trust) that adolescents have with their parents moderates the effects of the modelled behaviour. Ironically, therefore, a stronger parent-child relationship can also enhance adolescents' involvement in health-compromising behaviours. As one example, adolescents tend to model their parents' substance (ab)use more closely when their level of parental attachment increases (Andrews, Hops, & Duncan, 1997). Indeed, this suggests that negative role modeling may be at least as strong a determinant of adolescents' health behaviours as positive role modeling, if not more so.

Limitations of Extant Research on Parenting Styles and Practices

Notwithstanding the extant literature on parenting styles and practices, three broad limitations have restricted the development of research in this area. The first limitation derives from theoretical shortcomings in this area. For example, as an explanation of the inconsistent findings within the parenting *practices* literature, Crouter and Head (2002) suggest that

researchers have largely focused on the predictive effects of discrete parenting practices, and have not considered the multitude of parenting practices together, or perhaps more importantly, the broader *quality* of the parent-child relationship. Although a variety of parenting practices have been identified in the parenting literature, there is little consensus on the most appropriate axes along which to understand, and thereafter to intervene with, these parenting behaviours. For example, although specific parenting *practices* (e.g., communicating rules about alcohol use) may be easier to identify and modify than broad parenting *styles* (Ennett, Bauman, Pemberton et al., 2001), others have argued that the general family environment and overall quality of the relationship between the adolescent and the parent must be considered (Darling & Steinberg, 1993). In relation to research on parenting *styles*, and from a construct validity perspective, parents cannot be neatly or distinctly classified into a discrete set of parenting typologies (Baumrind, 1991b; Maccoby & Martin, 1983), making it difficult to know what feature of a given parenting style is responsible for the target outcomes of interest (Stewart & Bond, 2002). In addition, and perhaps most importantly, the underlying mechanisms that mediate the relationships between parenting styles and adolescent adaptive outcomes are still not fully understood (Darling & Steinberg, 1993).

The second limitation concerns issues of application whereby the transfer of theory to practice has been limited at best. Indeed, to be useful, theories must have practical benefits. In the adolescent health domain, the more successful interventions have generally focused on targeting discrete parenting practices, such as parental monitoring (e.g. Stanton et al., 2004) or parental communication (e.g. Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001). However, these studies have typically resulted in only short-term gains or negligible effects on actual health *behaviours* (e.g. Blake et al., 2001; St. Pierre, Mark, Kaltreider, & Aikin, 1997; Stanton et al.,

2000; Toomey et al., 1996). On exception to this pattern was a parental monitoring intervention study by Stanton et al., (2004), in which positive intervention effects on health-risk perceptions, knowledge and behaviours (substance use and risky sexual behaviours) were demonstrated 2 years after the intervention. Finally, the predominant focus on the prevention of health-compromising behaviours in adolescents has meant that researchers have largely ignored the importance of parenting behaviours that inspire and empower adolescents to engage in higher levels of functioning, and in particular to pursue health-enhancing behaviours. This is demonstrated by a general lack of rigorous experimental and intervention studies that target parenting behaviours and strategies in relation to adolescent health-enhancing behaviours such as healthy eating and physical activity.

Transformational Leadership

From an alternative theoretical perspective, an extensive body of research within organizational psychology suggests that the essence of leadership is concerned with developing effective relationships with others, and inspiring people to achieve 'beyond expectations' (Bass, 1985). In this section, an overview of the nature of transformational leadership theory is provided (Bass & Riggio, 2006), and how it represents an opportunity to understand and enhance parenting behaviours and parent-adolescent interactions, and overcome the three major problems identified in the parenting literature is discussed. Interestingly, Galbraith and Schvaneveldt (2005) have suggested that good leadership is not just needed within organizational settings, it is also needed within families.

Over the past two decades, transformational leadership theory has emerged as the most extensively studied framework for understanding leadership behaviours (cf. Barling, Christie, & Hoption, 2010; Judge & Bono, 2000), and has been applied to contexts as varied as businesses

(Barling, Weber, & Kelloway, 1996), sports (Charbonneau, Barling, & Kelloway, 2001), education (Koh, Steers, & Terborg,1995), hospitals (Avolio, Zhu, Koh, & Bhatia, 2004), and the military (Kane & Tremble, 2000). The origins of transformational leadership theory can be traced to the political writing of Burns (1978); Bass (1985) subsequently differentiated between transformational and transactional leadership, and applied the theory to aid in understanding leadership within organizational contexts. Leadership behaviours can be best understood along a continuum ranging from passive to active, and from least to most effective (Bass & Riggio, 2006). The theory includes laissez-faire, transactional, and transformational behaviours. Laissez-faire leadership represents the most passive and least effective form of leadership, and is characterized by behaviours that reflect indifference, absence, and a hesitancy to make decisions. Laissez-faire leadership has also been referred to as non-leadership.

Beyond laissez-faire, or non-leadership, Bass and Riggio (2006) characterized *transactional leadership* as the use of corrective behaviours by leaders to eliminate problems and gain compliance amongst followers. As the term 'transactional' implies, this form of leadership involves behaviours that are contingent on the successful/unsuccessful execution of a set of standards or tasks. Specifically, transactional leadership comprises two dimensions that correspond to contingent reward and management-by-exception. *Contingent reward* involves goal setting, providing feedback, and ensuring that behaviours have consequences, both positive and negative (Howell & Avolio, 1993). Managers' contingent reward behaviours are positively associated with ratings of leader effectiveness and employee satisfaction (Judge & Piccolo, 2004). *Management-by-exception* reflects the degree to which leaders intervene and take corrective action when standards are not met. *Active* management-by-exception occurs when leaders closely monitor followers' performance and look for errors, rather than focus on positive

events (Barling et al., 2010). They clarify the required standards of followers at the outset and actively search for deviations from what is required. In contrast, *passive* management-by-exception occurs when leaders intervene with criticism and blame only after mistakes are made, or standards are not met. At best, active management-by-exception is a weak but positive predictor of leader effectiveness and employee satisfaction, with passive management-by-exception and laissez-faire-leadership negatively associated with those same outcomes (Judge & Piccolo, 2004).

Notwithstanding these findings, a central tenet of transformational leadership is the *augmentation hypothesis* (Bass, 1998), which suggests that the more active forms of transactional leadership (contingent reward, active management by exception) represent necessary but insufficient conditions for superior performance and responses among followers. To achieve optimal levels of functioning transformational leadership is also required. As Bass (1998, p.5) noted, transformational leadership is not a substitute for transactional methods, rather that transactional leadership provides the basis for effective leadership and that "transformational leadership styles build on the transactional base in contributing to the extra effort and performance of followers".

So what is transformational leadership? Transformational leaders exert influence by empowering, inspiring and challenging others to achieve higher levels of functioning through the transmission of motives, values and beliefs (Bass & Riggio, 2006). Transformational leadership is conceptualized as comprising four separate dimensions namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. *Idealized influence* occurs when leaders behave in ways that engender the trust and respect of others, and are consistent and reliable. They behave as role models to followers, and lead through the

demonstration of deeply-held values and beliefs. Leaders who engage in *inspirational motivation* set high standards and raise followers' expectations regarding what they can achieve. They inspire and energize others to go beyond minimally accepted standards, by providing followers with a compelling vision of the future. *Intellectual stimulation* involves engaging the rationality of others, encouraging them to think for themselves and approach problems in innovative ways. Intellectually stimulating leaders empower followers to contribute new and alternative ideas. Finally, *individualized consideration* involves recognizing individuals' developmental needs, displaying a genuine sense of care, compassion and empathy towards others.

An extensive body of empirical evidence has consistently demonstrated that transformational leadership is related to a variety of adaptive outcomes among followers. For example, studies have found that transformational leadership is related to increases in followers' task performance (Kirkpatrick & Locke, 1996), perceptions of leader effectiveness (Judge & Piccolo, 2004) and trust in the leader (Burke, Sims, Lazzara, & Salas, 2007). There is also support for the positive influence of transformational leadership in relation to a variety of psychosocial outcomes among followers, such as greater empowerment (Dvir, Eden, Avolio, & Shamir, 2002), and the demonstration of citizenship behaviours (Piccolo & Colquitt, 2006). Of particular relevance to health and parenting behaviours, transformational leadership is linked both to the physical (Barling, Loughlin, & Kelloway, 2002) and psychological (Arnold, Turner, Barling, Kelloway, & McKee, 2007) well-being of employees. Transformational leadership also predicts a number of motivation-related cognitions and attitudes among followers including elevated levels of self-efficacy (Kark, Shamir, & Chen, 2003), self-determined motivation (Charbonneau et al., 2001), and commitment (Koh et al., 1995).

The Application of Transformational Leadership Theory to Parenting Behaviours

Transformational leaders gain their influence by maximising the quality of their relationships with others (Wang, Law, Hackett, Wang, & Chen, 2005). They place great importance on developmental processes, such as empowering followers (Avolio, 1999), helping them to become autonomous in their actions, and encouraging them to reach higher levels of functioning. Indeed, it is these very characteristics that discriminate transformational leadership from other forms of leadership (Burns, 1978), and makes transformational leadership theory especially relevant for understanding parenting behaviours. Adolescence is a period in one's life in which individuals are largely restricted in their autonomy, and are required to perform a range of behaviours that are *decided by others* (i.e., parents). This contrasts to adulthood, when people typically have (relatively) greater autonomy and are free(r) to decide their own courses of action. Parenthetically, this contextual insight into adolescence provides direct parallels with workplace settings whereby employees are often restricted in their autonomy by those in positions of leadership. Thus, in many regards the leader-follower dynamic that exists in workplace settings mirrors parent-child relationships within families.

Interestingly, transformational leadership has been described as being analogous to parent-child dynamics in many respects. In their recent review, Popper and Mayseless (2003) highlighted similarities that exist between aspects of effective parenting and the developmental aspects of transformational leadership, with a primary focus on fostering both employee (transformational leadership literature) and children's (parenting literature) motivation, empowerment and morality. In Table 2.1, it is highlighted how the behaviours that constitute transformational leadership align with health-promoting parenting processes involving adolescents.

Table 2.1. Parallels between transformational leadership and parenting

Transformational Leadership	Parenting
Laissez Faire	
Leaders avoid making decisions, hesitate to take action, and provide neither positive nor negative consequences for performance or behaviour (Avolio, 1999).	A neglectful permissive parenting style, in which parents are neither warm nor responsive, provide neither discipline nor guidance, and impose few controls on their child's behaviour (Baumrind, 1991b), is associated with the highest levels of health-risk behaviours (Igra & Irwin, 1996).
Management-by-Exception	
Management-by-exception involves the degree to which leaders intervene and take corrective action. *Active* management-by-exception involves monitoring and correcting follower behaviour, and anticipating problems before they emerge and create serious difficulties (Judge & Piccolo, 2004).	Like active management-by-exception, a considerable amount of research has examined parental monitoring during adolescence (e.g. Steinberg, Fletcher, & Darling, 1994). Higher levels of monitoring are associated with reduced adolescent health-compromising behaviours, such as drug use and sexual risk taking in (Dishion & McMahon, 1998; Li et al., 2000). However, high levels of parental monitoring are shown to have no effect on adolescent health-enhancing behaviours, such as physical activity and healthy eating (Mellin et al., 2002; Ornelas et al., 2007).
The *passive* form of management-by-exception involves intervention by the leader only after mistakes are made (Howell & Avolio, 1993).	Like passive management-by-exception, parents' non-physical punishment following misbehaviour is associated with more negative consequences than other types of protective parenting behaviours, such as monitoring. For example, the use of repetitive and severe verbal reprimands by parents may result in the development of emotional and behavioural problems (Crittenden, Claussen, & Sugarman, 1994).
Contingent Reward	
A key feature of transactional leadership involves the setting of goals and the provision of feedback and rewards for those being led in exchange for their performance on a given task (Avolio, 1999).	The parenting literature has demonstrated the importance of rewards and praise in the positive socialization of youth (Eisenberger & Cameron, 1996). Rewarding youth for appropriate behaviours in the family is associated with the development of attachment to, and commitment within the family (Hawkins, Lishner, & Catalano, 1985).

Table 2.1 Continued

Transformational Leadership	Parenting
Idealized Influence.	
Transformational leaders behave as role models (Bass, 1985) and embrace values-based principles (Bass & Steidlmeier, 1999). They choose to do the right thing rather than what is expedient, thus gaining trust and respect of followers (Podsakoff, MacKenzie, & Bommer, 1996).	Effective parents serve as positive role models (Perry et al., 1988), and generate a sense of trust (Kerr & Stattin, 2000). Parents socialize their children by communicating the values they want their children to internalize (Spera, 2005). The socialization of health-related behaviours occurs when parents' beliefs, attitudes, and behaviours reinforce specific adolescents' health attitudes and behaviours (Tinsley, 2003).
Inspirational Motivation	
Transformational leaders provide meaning and challenge to followers' work, articulate a compelling vision of the future, and display enthusiasm and optimism with regard to what followers can achieve (Bass & Riggio, 2006).	Parents enhance self-efficacy in their children through providing an environment that sets high but realistic aspirations (Schunk & Meece, 2006). Parental encouragement for physical activity is associated with youth physical activity behaviours (Brustad, 1996), as parents intentionally transfer exercise beliefs and behaviours to their children through verbal encouragement (Lau, Quadrel, & Hartman, 1990).
Intellectual Stimulation	
Transformational leaders encourage others to think independently and critically, and involve followers in the decision making process (Bass, 1998).	Successful parenting encompasses behaviours that encourage children to think independently, and behaviours that are respectful of the children's ideas (Baumrind, 1971; Maccoby & Martin, 1983); such behaviours predict the development of psychological autonomy (Steinberg, 2001).
Individualized Consideration Transformational leaders are sensitive to the needs of their employees, and support employee/follower growth and development (Bass, 1998).	Parenting styles that are sensitive to the child's needs and capabilities create optimal developmental outcomes (Belsky, 1984). Research demonstrates the positive effects of perceived parental social support on both physical activity (Vilhjalmsson, 1994) and dietary practices (Story et al., 2002).

Although the application of transformational leadership theory to parenting is still in its infancy, three studies are worthy of note. In an early prospective observational study conducted within the context of youth sport, Zacharatos, Barling, and Kelloway (2000) examined the processes that underlie how effective leadership behaviours might develop in adolescents. Specifically, Zacharatos et al., (2000) were interested in the extent to which transformational behaviours used by parents within the home might translate into adolescents demonstrating these same behaviours in the context of their peer-interactions in sport. This study revealed that ratings of adolescents' transformational leadership (as assessed by their coaches and peers) were indeed predicted by parents' displays of transformational behaviours. In another study, Galbraith and Schvaneveldt (2005) demonstrated that parents' transformational leadership behaviours predicted positive family outcomes such as concordance/harmony. Inferences from this study should be tempered, however, because this exploratory investigation used recall with adult children, and only parents' perceptions of their own leadership behaviours. More recently, in a study of on-ice hockey aggression, Tucker, Turner, Barling, and McEvoy (2010) showed a negative relationship between parents' transformational behaviours and teenagers' aggression; however, when the coach's transformational leadership was assessed simultaneously this relationship was found to be non-significant.

Although research integrating principles from parenting and transformational leadership is still at an early stage there are several features of transformational leadership theory that have the potential to contribute in ways that existing parenting approaches have fallen short. First, in spite of the vast amount of attention given to understanding the role of 'transactional' parenting approaches such as parental *monitoring*, research has typically focused on what parents *know* about their children and not what specific *behaviours* they use with their children (Kerr & Stattin,

2000). As such, findings from the transformational leadership and parenting areas may not be directly comparable, with this notion of parental monitoring possibly conveying parental care and concern (i.e., children are more willing to disclose information if they feel emotionally attached to parents; Kerr & Stattin, 2000). Our understanding of parenting behaviours and their effects might be enhanced if future conceptualizations of transformational parenting in general, and "parenting-by-exception" in particular, ensure a closer parallel to the notion of management-by exception, whereby researchers consider what parents 'do' rather than what they 'know'.

Beyond its general focus on behaviours, rather than knowledge (i.e., doing rather than knowing), an important theoretical contribution made by transformational leadership theory, and one that has particular relevance for understanding parenting processes, corresponds to the 'augmentation hypothesis' discussed earlier, whereby "transactions are at the base of transformations" (Avolio, 1999, p. 37). Indeed, transactional parenting (e.g., monitoring, setting goals, providing feedback, and exchanging rewards for good behaviour) may serve as an effective *foundation* for promoting adolescent health, especially in terms of deterring health-compromising behaviours. However, to motivate adolescents beyond minimal expectations (e.g., avoiding health compromising behaviours) and to engage in health-enhancing behaviours over time, *transformational* parenting behaviours become necessary. Moreover, as children spend greater time with their peers and mature into adolescence, and important health-enhancing behaviours increasingly become under voluntary control, parenting behaviours that serve to empower adolescents to choose to enact such behaviours become more critical. In line with the tenets of transformational leadership theory, improved adolescent functioning and adherence to health-related behaviours are achievable when parents *augment* transactional with transformational

behaviours (Bass, 1998). Testing this proposition represents a fascinating direction for future research.

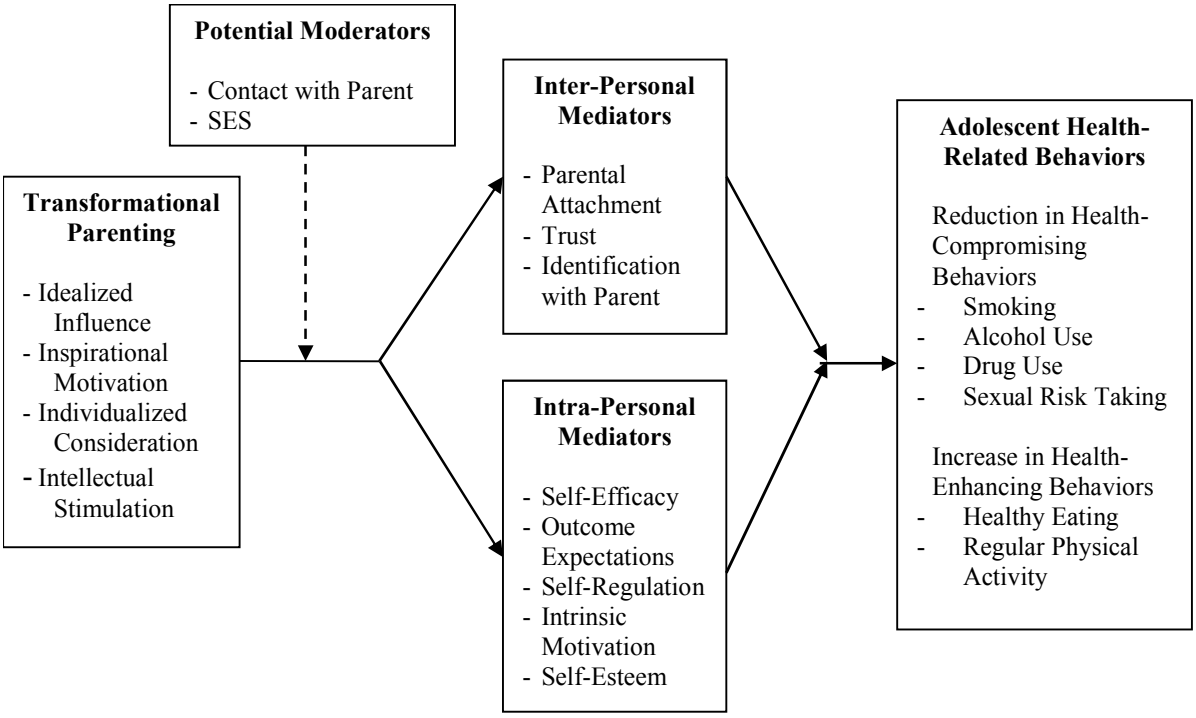
As previously noted, a major critique of the extant literature on parenting styles and practices concerns the transfer of theory to practice, as parenting interventions targeting multiple health-behaviours and sustained behavioural change have, in general, resulted in negligible effects on actual health-behaviours (e.g., Stanton et al., 2000). Perhaps more importantly, the general lack of experimental (and intervention) research on parenting to promote adolescent health-enhancing behaviours, coupled with the theoretical shortcomings of the extant parenting literatures, demonstrates that an alternative paradigm of parenting is warranted. In support of the application of transformational leadership theory to parenting, a growing body of experimental research (in both laboratory-based and field-based settings) suggests that transformational behaviours can be taught and fostered, and that follower's attitudes and behaviours change positively in response to their leader's newly learned transformational skills (Barling et al., 1996; Kelloway & Barling, 2000; Kelloway, Barling & Helleur, 2000; Shea & Howell, 1999). In sum, it is suggested that *transformational parenting* represents an innovative framework from which to understand, develop, and test interventions to drive salient health promotion behaviours in adolescents.

Mechanisms of Transformational Parenting

The preceding discussions demonstrate that transformational leadership behaviours are associated with desired employee outcomes, and suggest the potential for similar outcomes to emerge in relation to adolescents' health-related behaviours through the use of transformational parenting. However, the transformational leadership literature would suggest that even if parents enact the four behaviours, positive benefits do not simply happen. Thus, a critical question would

be *how* any effects of transformational parenting might occur; and this discussion is guided by findings from the transformational leadership literature that point to the core role of numerous mechanisms that mediate any effects of transformational leadership on salient outcomes. In this section, two broad categories of mediators that explain how transformational parenting may exert influence in relation to adolescent health behaviours are discussed. These correspond to (a) adolescents' perceptions of their parents (interpersonal mediators), and (b) adolescents' perceptions of themselves (intrapersonal mediators). The proposed process through which transformational parenting might affect adolescents' health behaviours is presented in Figure 2.1.

Figure 2.1. Proposed model linking transformational parenting and adolescent health-related behaviours



Interpersonal Mediators

It is widely accepted that there is a positive relationship between transformational leadership and followers' perceptions of the leader (Barling et al., 2010). In the workplace, employees feel a greater sense of commitment to leaders as a result of these positive perceptions, and in turn, this brings about a willingness to exert extra effort. In the parenting domain, a few studies have focused on adolescents' perceptions of their parents' behaviours, and on the quality of their relationship with their parents. These are highlighted below.

Attachment. Attachment is defined as an enduring affective bond of substantial intensity (Armsden & Greenberg, 1987), and research has focused on the factors that promote adolescents' attachments with their parents. Adolescents who perceive their parents as authoritative are more likely to hold a positive view of their parents as defined by secure attachment (Karavasilis, Doyle, & Markiewicz, 2003). Similarly, because transformational leaders facilitate high quality relationships with followers (Boyd & Taylor, 1998), we suggest that transformational parenting will strengthen attachment through increasing the overall quality of the parent-child relationship. This is important as high quality leader-follower relationships are associated with greater task completion by followers (Liden & Graen, 1980). Because poor attachment to parents in the adolescent years is related to various risk behaviours such as increased levels of substance abuse (Rosenstein & Horowitz, 1996), it is hypothesized that attachment will mediate the effects of transformational parenting on adolescent health-related behaviours.

Trust in the parent. Transformational leadership is associated with enhanced trust in those leaders (Jung & Avolio, 2000). In the parenting domain, adolescents who perceive a strong mutual trust with their parents are less likely to engage in high-risk behaviours (Kerr, Stattin, & Trost, 1999). Research on *how* adolescents' trust in parents is developed has received little

empirical attention (Rotenberg, 1995). In the organizational domain, however, followers who trust their leaders "are motivated to do more than they are expected to do" (Yukl, 1989, p. 272). Therefore, it is suggested that transformational parenting behaviours will motivate adolescents to pursue more healthy and adaptive behaviours (e.g., physical activity), and serve to deter adolescents from engaging in high-risk behaviours (e.g., substance abuse); and these pathways will be mediated by adolescents' trust in their parent.

Identification with a parent. The idealized influence dimension of transformational leadership includes the ability to create a strong desire for identification on the part of followers (Bass & Riggio, 2006). Shamir (1995) also suggests that transformational leaders use behaviours such as personal support (individualized consideration) to contribute to followers' positive affect toward the leader, thus enhancing personal identification with the leader. Research also shows that follower perceptions of transformational leadership are related to greater identification with the leader (Kark et al., 2003). Identification with the leader mediates the relationship between leadership and a host of adaptive outcomes among followers (Barling et al., 2010).

Within the parenting context, identification with a parent reflects the extent to which the child admires, emulates, and is similar in their beliefs and attitudes to those of the parent (Brook et al., 2001). Identification with parents is related to a reduced risk of health-compromising behaviours in adolescents (Brook et al., 2001). Identification with parents is facilitated by parental involvement, reflecting parenting strategies that display interest, and actively participate, in their child's life (Grolnick & Ryan, 1989). Thus, parenting behaviours that encompass idealized influence and individualized consideration will potentially enhance adolescents' identification with the parent, which in turn promotes health-enhancing behaviours and deters health-compromising behaviours.

Intrapersonal Mediators

The second type of mediator relates to internal psychological states of adolescents that are influenced by parents (i.e., self-perceptions). To understand the nature and role of these mediators, we draw upon core social-cognitive theories of behavioural change. Social-cognitive theories emphasize the inter-relationships that exist between cognitive, socio-environmental and behavioural factors (Bandura, 1997), and considerable empirical evidence has accumulated to explain how social cognitions can both promote health-enhancing actions as well as mitigate health-compromising behaviours. From a transformational leadership perspective, a growing body of evidence has also accumulated to suggest how transformational leadership can foster healthy social cognitions and adaptive health behaviours.

Self-Efficacy Beliefs. Bandura (1986) observed that "what people think, believe, and feel affects how they behave" (p. 25). Two social cognitions that that are embedded within self-efficacy theory are self-efficacy beliefs and outcome expectations. Self-efficacy beliefs refer to individuals' confidence that they can enact particular behaviours, whereas outcome expectations involve judgments about whether those behaviours will result in specific consequences (Bandura, 1997). Both self-efficacy beliefs and outcome expectations influence self-initiated health-behaviours (Bandura, 2004), and are viewed as being particularly salient during early adolescence as health-enhancing behaviours (e.g., leisure time physical activity) become increasingly voluntary (Sallis et al., 2000).

The primary predictors of self-efficacy beliefs include previous mastery experiences, vicarious experiences (or modeling), verbal persuasion, and physiological and affective states (Bandura, 1997). 'Idealized influence' involves effective role modeling (i.e., vicarious experiences), and 'inspirational motivation' parallels Bandura's notion of verbal persuasion.

According to Shamir, House and Arthur (1993), transformational leadership increases self-efficacy through expressing positive evaluations, communicating higher performance expectations and displaying optimism for followers' ability to meet such expectations, and by empowering rather than controlling their followers (Kanungo & Mendonca, 1998). Research from the organizational domain suggests that transformational leadership elevates followers' self-efficacy beliefs, and that these enhanced self-efficacy beliefs motivate employees (Bass, 1985; Kark et al., 2003; Kirkpatrick & Locke, 1996). In relation to parenting behaviours, parental support (individualized consideration), encouragement and high achievement expectations (inspirational motivation), and effective modelling (cf. idealized influence) consistently predict self-efficacy in children and adolescents (Schunk & Miller, 2002).

Self-efficacy is associated with many health-enhancing behaviours such as nutrition and physical activity (Cusatis & Shannon, 1996; Sallis et al., 2000), and in preventing the development of a wide range of health-compromising behaviours, including alcohol use and smoking (Aas, Klepp, Laberg, & Aaro, 1995). Although research has yet to examine the predictive utility of transformational parenting in relation to adolescents' health choices and behaviours, the study of self-efficacy as a potential mediator of these choices/behaviours represents a particularly worthwhile direction for future research.

Outcome Expectancies. Outcome expectations are theorized to be a less powerful determinant of health behaviours than self-efficacy beliefs (Bandura, 1997, p. 24), and there is less research focusing specifically on its effects. Nonetheless, individuals can be motivated to change their behaviours on the basis of the expectations they have for a given outcome. One example of this corresponds to the Pygmalion effect (Rosenthal & Jacobson, 1968): in relation to transformational leadership theory, increased leader expectations regarding subordinates'

achievements (inspirational motivation) are theorized to produce improvements in performance (Bass, 1985). From a health-compromising behaviour perspective, adolescents whose parents have high expectations for their behaviour, and hold them in high regard, are less likely to initiate substance use (Duncan, Duncan, Biglan, & Ary, 1998; Simons-Morton et al., 2001). In addition, adolescents who hold positive outcome expectations in relation to health-enhancing behaviours are more likely to be physically active (Winters, Petosa, & Charlton, 2003).

Self-Regulation. Self-regulation is critical for changing health-related behaviours (Schwarzer, 2001), and may be especially critical during adolescence. Health self-regulation refers to the motivational and volitional process of abandoning health compromising behaviours in favor of adopting and maintaining health-enhancing behaviours (Leventhal, Rabin, Leventhal, & Burns, 2001). Self-regulation involves the personal management of purposeful behaviour, and includes goal-setting, self-monitoring, and corrective self-reactions. A fundamental determinant of self-regulation corresponds to individuals' judgments about their abilities to effectively self-regulate, or what is also referred to as self-regulatory self-efficacy (Bandura 1997). In a recent study by Shields et al., (2008), the family was a significant determinant of adolescents' self-regulatory efficacy beliefs, which in turn predicted adolescents' participation in physical activity. According to Bandura (1969), children develop self-regulatory abilities through the modelling of desired behaviours by various social agents (e.g., parents), and over time learn to develop self-regulatory functions such as standard setting, self-evaluation and self-reinforcement.

From a transformational leadership perspective, the provision of intellectual stimulation by leaders creates conditions whereby followers are more willing to learn, are encouraged to think for themselves, demonstrate greater self-awareness and indeed enhanced self-regulation (Avolio, 2003). Similarly, in the context of parenting, there is a wealth of research linking

specific parenting behaviours with children and adolescents' self-regulation. For example, the provision of autonomy-supportive environments (the degree to which parents encourage participation in the decision making and active problem solving) increases children's self-regulation (Grolnick & Ryan, 1989). Adolescents who exhibit better self-regulation skills engage in higher levels of health-enhancing acts such as healthy eating (Contento, Williams, Michela, & Franklin, 2006) and increased physical activity (Anderson, Wojcik, Winett, & Williams, 2006). In contrast, low self-regulation predicts higher levels of substance abuse (Tarter, 2002) and greater sexual risk taking (Raffaelli & Crockett, 2003) among adolescents. In sum, the extent to which transformational parenting behaviours might influence adolescents' health-related self-regulatory capabilities and/or actions represents a particularly fruitful area for future research.

Self-Determined Motivation. From a motivational perspective, Deci and Ryan (1985; 1991) suggest that when people report elevated states of *autonomy, competence,* and *relatedness,* they are more likely to feel self-determined in the way in which they are motivated. According to Self-Determination Theory (SDT; Deci & Ryan, 1991) motivation can be intrinsic or extrinsic in nature. In addition, when people can no longer identify any reason for engaging in a given behaviour, they are said to be *amotivated*. There are several reasons for proposing that transformational parenting might be an important contextual predictor of self-determined motivation among adolescents. First, SDT suggests that when important social agents such as parents or teachers make use of controlling rather than autonomy-supportive behaviours, self-determined motivation is undermined, and can diminish (Ryan, Mims, & Koestner, 1983). Transformational leaders, however, encourage self-expression among others (Sheldon, Turban, Brown, Barrick, & Judge, 2003), which enables the development of autonomy-supportive relationships. Second, Charbonneau et al., (2001) purported that transformational leaders enhance

knowledge, learning, and understanding among others, and this intellectual stimulation enhances their feelings of competence. Finally, when leaders frame goals and expectations in ways that appeal to followers (inspirational motivation) and demonstrate concern for the well-being of others (individualized consideration), they are more likely to feel a sense of connection (or relatedness) with the leader, and thus report more adaptive (i.e., intrinsic) motives.

In one study, Charbonneau et al. (2001) demonstrated that when youth sport coaches were perceived to manifest transformational leadership, athletes' reported higher levels of intrinsic motivation, and performed better than their counterparts who were coached by non-transformational coaches. Although Charbonneau et al. did not examine autonomy, competence, and relatedness in their study, one can suggest that these three psychological needs might mediate the relationships between transformational leadership behaviours and follower motivation.

Within the parenting literature, several studies have shown that autonomy-supportive parenting (relative to controlling parenting), is associated with children's intrinsic motivation (Grolnick, Deci, & Ryan, 1997; Joussemet, Landry, & Koestner, 2008). Futhermore, adolescents' self-determined motivation increases when parental feedback to adolescents is designed to support their sense of competence (Grolnick et al., 1997). Research has also shown that intrinisic motivation in youth is likely to flourish in contexts characterized by a sense of secure relatedness (Ryan & La Guardia, 2000), which predicts improved adolescent self-esteem and adaptive functioning in school settings (Ryan, Stiller, & Lynch, 1994). Last, research has consistently shown that self-determined (intrinsic) motivation is positively associated with a range of adolescent health behaviours, such as higher levels of physical activity (Lonsdale, Sabiston, Raedeke, Ha, & Sum, 2009), and a reduced intensity and frequency of smoking in adolescents (Williams, Cox, Kouides, & Deci, 1999).

In sum, the satisfaction of a person's psychological needs results in the elevation of more self-determined types of motivation, such as intrinsic motivation (Deci & Ryan, 1991; Sheldon et al., 2003). Self-determined behaviour is crucial for many health behaviours, such as increased physical activity, smoking cessation and diet improvement. Indeed, when people report more internalized (i.e. autonomous) reasons and greater perceived competence for health-behaviour change, maintaining those changes is more likely (Williams & Deci, 1996). A major direction for future research represents an examination of the extent to which transformational parenting helps adolescents internalize motives related to the enactment of healthy lifestyles.

Self-Esteem. Beyond self-efficacy, outcome expectations, self-regulation, and self-determined motivation, the literatures on parenting and transformational leadership might help isolate other potential mediating mechanisms. For example, self-esteem (an overall evaluation or appraisal of an individual's own worth) has been examined in both the transformational leadership and parenting literatures. Transformational leaders enhance followers' self-esteem by articulating high expectations (Bass, 1985; Shamir et al., 1993; Yukl, 1989). Similarly, parents who display affection, empathy, and closeness bring about enhanced self-esteem in youth (Baumrind, 1968). In turn, self-esteem is associated with adolescent health behaviours. For example, low self-esteem is found to predict adolescent health-compromising behaviours, such as smoking and early sexual activity (McGee & Williams, 2000). In contrast, high levels of self-esteem are associated with adolescent health-enhancing behaviours, such as physical activity (Ornelas et al., 2007). Furthermore, in the study by Ornelas et al., (2007) self esteem was found to mediate the effects of parental influence in relation to adolescent physical activity behaviours. Other potential mediators might include specific attitudinal variables. For example, research has demonstrated that parents are able to influence children's health-related behaviours through the

transmission of their own attitudes (De Bourdeaudhuij & Van Oost, 2000), and indeed future research is encouraged to determine exactly which attitudinal variables are fostered through the application of transformational parenting practices.

Moderating Effects on Transformational Parenting

A question of theoretical and practical importance relates to the boundary conditions of transformational parenting. Specifically, under what conditions might transformational parenting be more or less effective? Both the transformational leadership and parenting literatures have identified several factors that moderate the relationship between leadership/parent and organizational/child outcomes (Barling et al., 2010; Lundahl, Risser, & Lovejoy, 2006). Perhaps the two most pertinent to an understanding of transformational parenting correspond to contact time that parents have with their adolescent children, and the socio-economic status (SES) of the family.

Adolescent Contact with Parents

From the transformational leadership literature, there is evidence to suggest that physical distance to the leader moderates the effectiveness of transformational leadership (Howell, Neufeld, & Avolio, 2005). From a parenting perspective, increased demands on parental time through employment or changing family structures (e.g., divorce) results in some parents spending significant amounts of time away from their children (Sandberg & Hofferth, 2001). Limited contact would result in less opportunity for parental monitoring and developing close relationships through which children can be exposed to the full range of their transformational parenting behaviours. As one example, a wealth of research in the parenting domain has emphasized the importance of family meal times for parent-child interaction and socialization within the family. Family meals provide an opportunity for modeling healthy eating patterns and

social interactions among family members (Neumark-Sztainer, Wall, Story, & Fulkerson, 2004). In addition, the rituals developed by parents during meal times can foster an identity and connectedness that is particularly important during adolescent development (Collins, 1995). The moderating effect of contact with parents on the relationship between transformational parenting and adolescent health-related behaviours represents an interesting topic for investigation.

Socio-Economic Status

Research supports the notion that SES moderates the effectiveness of parenting (Hoff, Laursen, & Tardif, 2002). For example, families undergoing economic hardship report more disruptions to child-parent relationships (Conger, Rueter, & Conger, 2000), with perceptions of financial stress negatively impacting parenting (Gutman & Eccles, 1999). Other ways in which SES can alter the effectiveness of parenting is through the characteristics of the physical environment (e.g., space for physical activity, availability of healthy foods), social norms (e.g., smoking levels in the community, eating habits), and the costs of health-enhancing behaviours. Therefore, despite parents' use of transformational behaviours with their teens (i.e., responding to individual needs and abilities), family resources, environmental and social factors may act as barriers which potentially limit the predictive utility of transformational parenting.

SES will also predict whether families live in poor and unsafe neighborhoods, which present additional challenges for parents in such communities, as strategies that otherwise might foster adolescent autonomy (i.e., a reduction in monitoring; increased freedom for exploration and chances to learn from mistakes) might place adolescents at greater risk of exposure to health compromising activities (McElhaney & Allen, 2001). The level of risk in such environments may limit the effectiveness of transformational parenting, as the safety and well-being of adolescents might require greater use of transactional approaches (e.g., monitoring and limit setting). Thus,

future research is clearly warranted to examine whether SES and transformational parenting interact to influence adolescent health-related behaviours.

Although not directly related to SES, research in the transformational leadership domain suggests that transformational behaviours actually have a stronger effect on follower performance when followers face difficulties and challenging goals, and thus need more guidance (Whittington, Goodwin, & Murray, 2004). This suggests that transformational parenting may actually be *more* important and effective when adolescents are faced with challenging goals and require more guidance from their parents. Future research is clearly warranted to examine how families' financial constraints and the physical environment contribute to influence adolescents' health-related behaviours.

Transformational Parenting Interventions

Attention is now turned to the development of transformational parenting interventions. Although existing parenting programs and interventions typically vary in philosophy and content (i.e., delivery methods and specific outcomes of interest), the ideology underpinning most parenting programs is to help parents to understand the effects of their behaviour on their children, and to help them feel empowered and confident in their parenting roles (Gaze 1997; Miller & Sambell, 2003). Consistent with the theory surrounding transformational leadership interventions (cf. Kelloway & Barling, 2000), a transformational parenting intervention would broadly focus on empowering parents (a major goal of transformational leadership interventions is to convince leaders that they can make a difference; Kelloway & Barling, 2000). This would raise parents' self-efficacy beliefs, which would lead to greater parental effort and persistence (Bandura, 1977). Interestingly, Moran, Ghate, and van der Merwe (2004) purport that the focus (and reality) of many parenting interventions to date has been on identifying the weaknesses and

deficits in parenting skills rather than the development of strengths, and yet it has been suggested that there is much to be gained by reconceptualising parenting research and practice in terms of 'accumulated opportunities' instead of 'accumulated risk' (Garbarino, Vorrasi, & Kostelny, 2002). Therefore, it seems plausible to suggest that transformational parenting interventions centered on empowering parents might deliver improved health-related outcomes for adolescents.

Research from the organizational psychology domain suggests that transformational behaviours can be developed through short-term interventions, including one-day workshops (Barling et al., 1996; Kelloway et al., 2000). To facilitate the delivery of effective transformational leadership interventions, Kelloway and Barling (2000) presented a four-element conceptual framework that emphasizes the presentation of transformational principles (Element 1), demonstration of transformational behaviours (Element 2), provision of opportunities to practice transformational behaviours (Element 3), and the provision of feedback on the performance of transformational behaviours (Element 4). In the context of delivering efficacious transformational parenting interventions, we envision the particular need to (a) make parents aware of how their behaviours potentially influence their children's health-related behaviours, (b) provide parents with domain-specific examples of transformational parenting, (c) give parents opportunities to practice transformational parenting strategies, and (c) develop means to ensure that parents receive feedback on their (transformational) parenting strategies.

To support parents in their efforts to maintain the use of transformational behaviours over time, we would also encourage the use of self-regulation strategies designed to maximize parents' on-going use of transformational behaviours once the initial intervention (i.e., workshop) has ended. Self-regulation involves goal-selection and construal, active goal pursuit, and goal attainment and maintenance processes (Maes & Karoly, 2005), and although studies have yet to

implement self-regulatory components within transformational leadership interventions, we would envision that their implementation could support parents in their sustained use of transformational behaviours. In sum, the development of transformational parenting interventions designed to target health-enhancing behaviours among adolescents represents an exciting avenue for future research.

Conclusions

Adolescence is a critical period during which positive health behaviours are developed, and parents play a decisive role in fostering this process. In this chapter, it was outlined how transformational leadership theory represents a conceptually sound and practically relevant framework for understanding the influence of parents on adolescents' health-behaviours. Specifically, the application of transformational leadership theory to parenting serves to enable (a) a greater understanding the effects of specific parenting behaviours in relation to salient health-compromising and health-enhancing behaviours among adolescents, and (b) a potential opportunity to develop and apply conceptually-sound interventions designed to target multiple health behaviours. Also, several potential mediating mechanisms through which transformational parenting might positively influence adolescent health enhancing behaviours are discussed. Research addressing the core ideas offered above, such as whether and how transformational parenting influences the development and maintenance of adolescents' health-enhancing behaviours, and whether transformational parenting behaviours can be taught, is encouraged, and offers the potential to enhance both the theory and practice of transformational leadership and parenting.

Chapter 3: The Application of Transformational Leadership Theory to Parenting: Questionnaire Development and Implications for Adolescent Self-Regulatory Efficacy and Life Satisfaction

Introduction

Transformational leadership is a form of leadership that elevates the beliefs and motives of others, and supports them in achieving higher levels of functioning (Avolio, 1999). Ever since Burns (1978) introduced the concept of a 'transformational leader' in his early political writings, research on transformational leadership has grown to become the most extensively studied model of leadership (Barling et al., 2010). Transformational leadership comprises four dimensions, namely *idealized influence, inspirational motivation, individualized consideration* and *intellectual stimulation* (Bass & Riggio, 2006). When leaders display idealized influence, they behave as role models and engender the trust and respect of followers. Leaders who engage in inspirational motivation communicate high expectations, are optimistic with regards to what followers can achieve, and energize others to go beyond minimally accepted standards. When leaders engage in intellectual stimulation, they encourage followers to think independently and contribute their own thoughts and ideas. Finally, leaders who demonstrate individualized consideration recognize and adapt to others' individual needs and abilities.

The Application of Transformational Leadership to Parenting

Although the vast majority of transformational leadership research has taken place within workplace contexts (e.g., Barling et al., 2010), sports (e.g., Tucker et al., 2010), and the military (e.g., Hardy et al., 2010), recent research has also emphasized the importance of transformational leadership within families, and in particular in relation to parenting (Galbraith & Schvaneveldt, 2005). Both leadership and parenting practices are concerned with the processes through which

people (irrespective of whether they are leaders or parents) elevate others to achieve important outcomes (Morton, Barling, et al., 2010). Interestingly, Popper and Mayseless (2003) described transformational leadership as being analogous to effective parent-child dynamics in many respects. Indeed, in terms of supporting employee and child growth and development, both parents (within families) and leaders (within organizational settings) have the capacity to empower and help others to become autonomous in their actions. Parenthetically, contemporary theories of child development emphasize the importance of developing high-quality relationships between parents and their children, especially during adolescence (Bornstein, 2002). This directly aligns with research in the workplace, whereby transformational leaders gain influence through maximizing the quality of their relationships with others (Wang et al., 2005). It is the focus on developmental processes that discriminates transformational leadership from other types of leadership (Burns, 1978), and makes transformational leadership theory especially relevant to understanding parenting behaviours.

An important rationale for the extension of transformational leadership theory to the domain of parenting and adolescent development is that an extensive body of research demonstrates support for the positive influence of transformational leadership in relation to a variety of adaptive psychosocial outcomes among followers. For example, transformational leadership is associated with enhanced self-efficacy (Kark et al., 2003), greater pro-active behaviours (Strauss, Griffin, & Rafferty, 2009) and increased well-being (Arnold et al., 2007) among those being led. In addition, a growing number of studies have demonstrated that transformational leadership behaviours can be developed through intervention, and that followers' attitudes and behaviours can be positively influenced as a result of their leaders' newly acquired transformational skills (Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009). Thus,

extending transformational leadership theory to the parenting domain not only represents an opportunity to further examine the external validity of the transformational leadership construct (cf. Bass, 1997), but also represents a conceptually sound framework to develop interventions designed to target transformational leadership in parents (hereafter referred to as *transformational parenting*; cf. Morton, Barling, et al., 2010) and their influence on positive adolescent development and well-being.

In spite of the potential for applying transformational leadership theory to parenting, to date only a few empirical investigations have applied this conceptual framework to understanding the influence of parents. In the context of sport, Zacharatos et al., (2000) reported on the extent to which transformational behaviours exhibited by parents might translate into adolescents' transformational behaviours within their peer-interactions. This study revealed that ratings of adolescents' transformational leadership behaviours were predicted by parents' displays of transformational behaviours. In another study, again in the context of youth sport, there was a negative relationship between parents' transformational behaviours and teenagers' propensity to aggress in ice hockey (Tucker et al., 2010). Finally, Galbraith and Schvaneveldt (2005) demonstrated that parents' transformational leadership behaviours predicted indices of family well-being, such as family concordance and improved marital strength.

One factor restricting the development and application of transformational leadership theory to parenting is the lack of an instrument to measure transformational parenting. Indeed, the few studies that have looked at transformational leadership behaviours in parents (e.g., Galbraith & Schvaneveldt, 2005; Zacharatos et al., 2000) were based on instruments developed for use within work-place contexts with adults (e.g., the Multifactor Leadership Questionnaire; Bass & Avolio, 1995). Such instruments contain terminology and language that is not well suited to the

family environment or for use with adolescents (e.g., "The person I am rating suggests new ways of looking at how to complete assignments"). Thus, the first objective of this study was to develop an instrument to measure transformational parenting for use with adolescents in the context of the family, and provide evidence of *construct* validity (cf. Messick, 1995).

A Unified View of Validity

Traditionally, validity was viewed as a three-part concept that comprised content, construct and criterion-related validity (e.g., Angoff, 1988). More recently, validity has been re-conceptualized as being a unified concept now known as *construct* validity (Messick, 1989; 1995). Specifically, construct validity "comprises the evidence and rationales supporting the trustworthiness of score interpretation in terms of explanatory concepts that account for both test performance and score relationships with other variables'' (Messick 1995, p. 743). In the present study, we provide evidence for several aspects of construct validity including the *content* aspect of construct validity (evidence of content relevance and representativeness), the *substantive* aspect (how and why do respondents arrive at their answers, and how this may be affected by aspects of the questionnaire), the *structural* aspect (the internal structure of the assessment, i.e., factorial validity) and finally the *external* aspect of construct validity (evidence of criterion relevance and applied utility).

Transformational Parenting and Adolescent Self-Regulatory Efficacy and Life Satisfaction

As mentioned above, an important aspect of construct validity is to provide evidence of the potential applied utility of the construct of interest by highlighting external relationships between the focal construct (transformational parenting) and theoretically related variables. In the present study we examine the relationship between adolescents' perceptions of transformational parenting and three important health-related cognitions, namely self-regulatory efficacy for

physical activity and healthy eating, and life satisfaction. As previously noted, transformational leadership has consistently been found to predict elevated levels of follower self-efficacy (Kark et al., 2003) and psychological well-being (Arnold et al., 2007). Transformational leaders increase followers' self-efficacy beliefs by communicating higher performance expectations, displaying optimism for others' abilities to meet such expectations, and by empowering rather than controlling (Shamir, House, & Arthur, 1993). In addition, transformational leaders create conditions whereby followers are inspired to learn, are encouraged to think for themselves, demonstrate greater self-awareness and demonstrate enhanced self-regulation (Avolio, 2003). High-quality leadership also has the potential to positively influence others' subjective well-being (Arnold et al, 2007; van Dierendonck, Haynes, Borrill, & Stride, 2004). Within the health psychology literature, parents fulfil a vital role in fostering adolescent health-enhancing cognitions (Shields et al., 2008) and well-being (Aquilino & Supple, 2001). One potential influence that parents have on their children is the promotion of healthy lifestyles, such as the development of healthy eating practices (Harrington et al., 2005) and physical activity behaviours (Gustafson & Rhodes, 2006). From an adolescent health perspective, self-efficacy, or the belief that one has the ability to engage in a specific behaviour, is central to the regulation of that behaviour (Bandura, 1997). Additionally, Bandura emphasized that for successful behaviour change, self-regulatory efficacy (individuals' judgments about their abilities to effectively self-regulate) is more important than performance self-efficacy. For example, the issue is not whether one can do the activities occasionally, but whether people believe that they can overcome potential barriers to regular performance of the activity. Self-regulatory efficacy is positively associated with a number of health-enhancing behaviours, such as healthy eating (Anderson, Winett, & Wojcik, 2007) and physical activity (Ryan & Dzewaltowski, 2002), giving it a central

role in adolescent development. In addition, a growing body of research has emphasized the importance of parents as critical agents in supporting the subjective well-being of adolescents, specifically in relation to adolescent life satisfaction (Antaramian et al., 2008). Life satisfaction is an important component of psychological health and well-being and has been defined as a subjective appraisal of the quality of one's life overall (Diener et al., 1999). For example, positive reports of parent–adolescent relationships (Ben-Zur, 2003) and high levels of parental support (Suldo & Huebner, 2004) are positively related to indices of adolescent life satisfaction.

Taken together, and consistent with the research in both the transformational leadership and parenting domains, it was hypothesized that adolescents' perceptions of their parents' transformational leadership behaviours will be positively associated with enhanced self-regulatory efficacy related to two key health-enhancing behaviours, namely physical activity and healthy eating, as well as improved life satisfaction.

> Hypothesis 1: Adolescents' perceptions of their mothers' and fathers' transformational leadership behaviours will be positively associated with their own enhanced self-regulatory efficacy for physical activity and healthy eating.
>
> Hypothesis 2: Adolescents' perceptions of their mothers' and fathers' transformational leadership behaviours will be positively associated with their own life satisfaction.

Methods

Participants

857 adolescents from grades 9-10 participated in this study (M_{age} = 14.70 yrs; 426 males, 426 females, with 5 who did not specify their gender). Students were drawn from 35 classes, from four schools in the Lower Mainland of British Columbia (Canada), and represented a diverse range of ethnic and socioeconomic backgrounds. Specifically, 21% of adolescents

identified themselves as Canadian, 40% Asian[1], 27% Canadian-Asian, 5% East Indian and 7% 'other ethnicities'.

Procedures

Prior to conducting the study, ethical approval was obtained from the lead author's institutional review board, as well as the corresponding school board. Once schools had elected to participate, a description of the study was provided to potential participants through an announcement in students' classes. Students were also given a letter informing them (a) of the purpose of the study, (b) that their participation was voluntary, (c) that any information they provide would remain confidential, and (d) that they could withdraw from the study at any time without having to give any reason. At the same time, parents were sent a letter informing them of the purpose of the study and asking them to return the letter if they did not want their child to be involved in the study (passive consent). After obtaining both parental and adolescent consent over the next two weeks, adolescents were invited to complete a questionnaire package during a pre-arranged class.

Measures

Transformational Parenting. To facilitate the development of an instrument to assess adolescents' perceptions of transformational parenting, we used a three-step process. In the first step, we conducted an extensive literature review of both the parenting and transformational leadership literatures. As Clark and Watson (1995, p.310) assert, a "critical first step is to develop a precise and detailed conception of the target construct". For a full review of the transformational leadership and parenting literatures, as well as a detailed conception of the *transformational parenting* construct see Morton, Barling et al., (2010). In sum, transformational

[1] Of this 40%, the majority (28%) identified themselves as Chinese, 4% Korean, 3% Filipino, 3% Vietnamese and 2% 'other'.

parenting was conceptualized as involving four dimensions (Bass & Riggio, 2006); idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Using this conceptual framework as a basis (Bass & Riggio, 2006; Morton, Barling, et al., 2010), a comprehensive list of items was generated. Existing transformational leadership scales (e.g., Bass & Avolio, 1995; Beauchamp et al., 2010; Carless, Wearing, & Mann, 2000) were also reviewed, and as a result of this item-generation process, a preliminary measure, comprising 23 items was developed.

In the second step, focus groups with parents and adolescents were conducted to further refine and pre-test the initial measure. Consultation with members of the target population represents an important step in providing evidence of the *content* aspect of validity (Vogt, King, & King, 2004), and can also establish the *substantive* aspect of validity by examining how respondents interpret and make sense of items (e.g., what does a score on a self-report measure actually mean to the participant?). In total, seven focus groups were conducted, three groups with parents of adolescents ($N = 13$; $M_{age} = 47.1$ yrs; 4 males, 9 females), and four groups with adolescents ($N = 17$; $M_{age} = 14.5$ yrs; 10 males, 7 females). To facilitate this review process, a modified 'retrospective think-aloud' protocol was used which combined focus groups with a retrospective think-aloud protocol (Oremus, Cosby, & Wolfson, 2005; Willis, 2005), to better understand how members of the target population interpret and respond to items. Specifically, all participants in the focus groups were instructed to complete a copy of the initial measure (parent or adolescent version) independently. Following this, a series of probes were used in order to get participants to discuss all elements of the preliminary measure (i.e., instructions, response format and each item) in turn. Probes included (a) what in your own words does the question mean to you? (b) Did the answer choices include your answer? (c) Did you understand how to answer the

questions? (d) Did the questionnaire leave anything out you felt was important? (Oremus et al., 2005; Willis, 2005). All focus groups were transcribed verbatim by the first author and a content analysis was conducted. A constant comparison approach was used (Strauss & Corbin, 1998), whereby sentences and phrases that carried meaning were identified and coded. This process was repeated following successive focus groups and revisions were made to the questionnaire until no new suggestions emerged. As a result of this item trimming and instrument refinement process, nine of the original items were retained, seven items were reworked, and seven items were eliminated, resulting in a final list of 16 items across the four dimensions of transformational parenting (four items per dimension)[2].

To ensure that the items were representative of the four *a priori* transformational parenting dimensions, the trimmed item-pool was subsequently reviewed in the third step for item representativeness by five individuals with expertise in transformational leadership. This process resulted in no further changes to the items. These 16 items, hereafter referred to as the *Transformational Parenting Questionnaire* (TPQ), demonstrate a Flesch (1948) Readability score of 60.1, which corresponds to a reading level suitable for children in Grades 6-8 (D'Alessandro, Kingsley, & Johnson-West, 2001). Items on the TPQ were anchored on a 6-point Likert-type rating scale anchored by 0 (*Strongly disagree*), 1 (*Disagree*), 2 (*Slightly disagree*), 3 (*Slightly agree*), 4 (*Agree*), and 5 (*Strongly agree*). All items (see Table 3.2) were prefixed by "My parent/guardian….". Adolescents were invited to complete separate TPQ's for each parent/guardian (a maximum of two).

[2] As the respondents discussed aspects of the preliminary measure, the analysis focused on problematic and alternative interpretations of items. In addition, changes were made to the verbal anchors affixed to each response option and the instructions (See Table 3.1).

Table 3.1 Findings from the retrospective "think-aloud" focus groups: Examples of problems and alternative interpretations of items.

Emerging Themes	Examples	Action Taken
Variable interpretation of terms		
Participants suggested alternative wording for some items to enhance clarity and ease of understanding.	'Gets me to question my own and others ideas' was modified to now read "Gets me to think for *myself*" A2 'Shows comfort and understanding when I am upset' was modified to now read "Shows comfort and understanding when I am upset/*frustrated*" A6	Items were retained but modified slightly in terms of wording.
Participants felt that some items may not be particularly *relevant* to the "parenting teenagers" domain.	"I think as a parent I'm no longer 'providing my child with tasks'….that's something we did when the child was a lot younger" P1 "I don't agree with *unconditional* support, especially not for teenagers, my support is definitely conditional, like if they are smoking or doing drugs?" P4	These items were omitted from the item pool.
Participants perceived some of the items to be difficult to comprehend, and/or misinterpreted the item	'Talks about his/her personal values and beliefs': "But this isn't always good, like if they just talk about their own beliefs all the time but don't let you express your own ideas then that is bad" A2 "I automatically think about religious beliefs" A7 'Creates an environment that really encourages me to think': "Think about what? I'm always thinking about something" A9 'Behaves in manner that is consistent and reliable': "I think this is the same as 'dependable' (other item) but also I don't think I am necessarily consistent *and* reliable, they are two separate things" P2	These items were omitted from the item pool.
	'Inspires me to achieve beyond my goals': "I'm not sure how to go *beyond* goals if my goals are already high"A8 'Encourages me to freely express my own ideas and opinions within our family': "oh I was thinking about talking about my opinions to do with my family, like what I think about my cousins or family business" A4	These items were retained but modified slightly in terms of wording
Participants thought that some items were captured (more clearly) by other items	'Motivates me to try my hardest': "I think motivation will be there if they do the other things, like if they are optimistic and they encourage me….motivation is the outcome of that" A3	This item was omitted from the item pool.

Table 3.1 Continued

Emerging Themes	Examples	Action Taken
Vague instructions Adolescents were instructed to complete a maximum of two TPQ's (i.e., one for each parent/guardian). A number of adolescents (n=5) missed this instruction and completed one for both parents simultaneously.	"How about getting them to write which parent they are thinking about at the top of the page" and "give examples, coz not everyone is thinking about a mum or dad" A8	Adolescents were subsequently instructed to write "what parent/guardian you are thinking about as you complete this questionnaire" (i.e., Mother, Father, Step-Father, Grandmother etc).
Confusing response option The middle option "*sometimes*" was endorsed when participants did not understand the question or could not think of an example of that behaviour.	"When I can't really be bothered to think about it I just circle the middle one" A7	The response format was changed to a 6-point Likert scale so that no middle point existed.
The "frequency" Likert scale (consistent with other measures of transformational leadership; Bass & Avolio, 1994) was difficult to comprehend for some items.	"Some (items) are actions you do, but it doesn't make sense to be doing them *frequently*…but some are tendencies you can always be working towards and aware of " P2 "It would be better to have 'agree' or 'disagree' because 'frequently' is a timely basis and not all of these are done everyday, they don't *always* do it but its still there " P5	A "Strongly Disagree" to "Strongly Agree" response format was adopted.

P = parent focus group participant; A = adolescent focus group participant

Table 3.2. Transformational parenting questionnaire items

1	Acts as a person that I look up to
2	Is optimistic about what I can accomplish
3	Gets me to think for myself
4	Displays a genuine interest in my life
5	Behaves as someone that I can depend on
6	Demonstrates that s/he believes in me
7	Encourages me to look at issues from different sides
8	Helps me when I am struggling
9	Behaves as someone that I can trust
10	Is enthusiastic about what I am capable of achieving
11	Encourages me to freely express my own ideas and opinions
12	Shows comfort and understanding when I am upset/frustrated
13	Treats me in ways that build my respect for him/her
14	Encourages me to achieve my goals
15	Shows respect for my ideas and opinions
16	Displays genuine care and concern for me

Note: Idealized Influence (II items: 1, 5, 9, and 13); Inspirational Motivation (IM items: 2, 6, 10, and 14), Intellectual Stimulation (IS items: 3, 7, 11, and 15); and Individualized Consideration (IC items: 4, 8, 12 and 16).

Self- regulatory efficacy for physical activity. Adolescents' beliefs in their abilities to manage various self-regulatory aspects of their physical activity participation over the upcoming three weeks (e.g., scheduling physical activity sessions and monitoring progress) were assessed using a ten-item instrument originally developed by Shields and Brawley (2006, 2007). Responses to items are anchored on a 0 percent (not at all confident) to 100 percent (completely confident) scale. An exemplar item is "How confident are you that you can motivate yourself to get at least 30 minutes of activity a day, 3 times per week over the *next 3 weeks*?". The self-regulatory efficacy for physical activity measure demonstrated satisfactory reliability in the present study (composite reliability in present study = .94).

Self-regulatory efficacy for healthy eating. Adolescents' beliefs in their abilities to eat healthily were measured using a modified version of the instrument developed by Strachan and Brawley (2008). Participants were asked to rate their confidence that they could engage in five self-regulatory behaviours related to maintaining a healthy diet during the next three weeks. Item responses were again anchored on a 0 percent (not at all confident) to 100 percent (completely confident) scale. An exemplar item is "How confident are you that if you are going to eat out, you will choose healthy meals over the *next 3 weeks*?". The self-regulatory efficacy for healthy eating measure demonstrated satisfactory reliability in the present study (composite reliability in present study = .91).

Life Satisfaction. This construct was measured using the satisfaction with life scale adapted for children (SWLS-C; Gadermann, Schonert-Reichl, & Zumbo, 2010). The SWLS-C was adapted for younger populations by Gadermann et al., (2010) based on the original satisfaction with life scale developed by Diener, Emmons, Larsen, and Griffin (1985). The SWLS-C consists of five items, in which participants are asked to respond using a 5-point Likert scale, anchored by 1 (Disagree a lot) and 5 (Agree a lot). An exemplar item includes "In most ways my life is close to the way I would want it to be". This measure demonstrated acceptable reliability in the present study (ordinal composite reliability in present study = .90).

Results

Confirmatory Factor Analysis

Research in the parenting domain has suggested that mothers' and fathers' parenting behaviours should be analyzed separately, as (a) the behaviours of one parent may differ significantly from the other parent (Simons & Conger, 2007), and (b) there may be differences in the strength of a mother's versus father's influence over a child (Milevsky, Schlechter, Netter, &

Keehn, 2007). With this in mind, separate models representing adolescents' perceptions of mothers' (n = 829) and fathers' (n = 709) transformational parenting behaviours were specified. Thirty-seven adolescents completed the TPQ with reference to a guardian other than a parent (i.e., aunt, uncle, grandmother, grandfather). These cases were excluded from the analyses.

Based on prior measurement development research within the transformational leadership literature (Avolio, Bass, & Jung, 1999; Bass & Avolio, 1994; Beauchamp et al., 2010), models representing different factor structures were compared to determine the best fit for measures derived from the TPQ. Although the four dimensions of transformational leadership (idealized influence, inspirational motivation, individualized consideration and intellectual stimulation) are theorized to be conceptually distinct components (Bass, 1997), several studies have found these dimensions to be highly correlated (e.g., Beauchamp et al., 2010; Bycio, Hackett, & Allen, 1995). Indeed, many researchers have combined the four factors to represent an omnibus indicator of transformational leadership (Judge & Bono, 2000).

Confirmatory factor analyses were performed on data derived from the TPQ, using M*plus* Version 5.21 software (Muthén & Muthén, 2006), using weighted least squares mean and variance-adjusted (WLSMV) estimation[3], treating the Likert item responses as ordinal – with a polychoric correlation matrix. The WLSMV estimator is considered the best option for CFA modeling with ordered categorical data (Beauducel & Herzberg, 2006; Muthén, 1993). For

[3] When examining results of these analyses it is important to note that WLSMV $\chi 2$ statistics and degrees of freedom are calculated in a way different to that used for common estimation methods such as maximum likelihood (see M*plus* User Guide for details; Muthén & Muthén, 2006).

missing data, M*plus* does not impute values for those that are missing. It uses all data that are available to estimate the model using, in our case, the WLSMV algorithm. Each parameter is estimated directly without first filling in missing data values for each individual. To determine which model of transformational parenting provides the best overall fit for the data, a variety of fit indices were examined for each of the hypothesized models. The χ^2 test was considered for each model. However a non-significant χ^2 statistic may be unrealistic (Barrett, 2007) and over-sensitive to large sample sizes (Hair, Black, Babin, & Anderson, 2009), therefore supplemental fit indexes were also considered. As the models we compared were non-nested (therefore we could not perform chi-square difference tests), we examined the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Acceptable model-data fit was designated as CFI and TLI values of $>.90$ (Bentler, 1992) and RMSEA values of $<.08$ (Hu & Bentler, 1999), whereas excellent fit was designated as TLI and CFI values close to or greater than .95 and RMSEA values close to .06 (Hu & Bentler, 1999). The process of psychometric evaluation also involves an examination of the reliability of the measurement and the quality of the individual items. Specifically, these were evaluated using component fit results from the CFA (e.g., factor loadings, composite reliability, and average variance extracted). The factor loadings indicate how much of the variance in an item is explained by the latent factor. Composite reliability (CR) is an index of measurement reliability formalized within a structural equation modelling framework and is similar to a Cronbach's α, except that it does not assume that each item is equally weighted in the composite load determination (see Bollen, 1989). For scales using Likert item response formats (e.g., the TPQ and the SWLS-C), the CR is computed based on the polychoric correlation matrix and hence the resulting coefficient is an indicator of ordinal composite reliability (Zumbo, Gadermann, &

Zeisser, 2007). Finally, the average variance extracted (AVE) is a summary measure of convergence amongst the items. According to Hair et al., (2009), the factor loadings should be ≥ .50, the CR values should be 0.70 or greater, and the recommended value for average variance extracted should exceed the variance due to measurement error (i.e., AVE should exceed 0.50). Finally, as a more stringent test of discriminant validity, it is recommended that the AVE for each construct should exceed the squared correlation between that and any other construct (Farrell, 2010; Fornell & Larcker, 1981).

Initially, a four factor measurement model (model a) was tested with the four transformational parenting dimensions specified as correlated first-order latent factors (See Table 3.3). For mothers, this measurement model provided evidence of good model fit: χ^2 (66) = 409.3, $p < .001$, CFI = .922, TLI = .992, RMSEA = .079. In addition, the conditions for convergent validity were met (i.e., all factor loadings were significant and ranged from .66 to .86; CR values ranged from .84 to .89; AVE values ranged from .57 to .67). Similarly, for fathers this measurement model provided evidence of acceptable model fit: χ^2 (57) = 339.9, $p < .001$, CFI = .946, TLI = .994, RMSEA = .084. In this model, the conditions for convergent validity were also met (i.e., all factor loadings were significant and ranged from .73 to .89; CR values ranged from 88 to .91; AVE values ranged from .66 to .73). However, for both the mother and father models, the more stringent test of discriminant validity was not supported as the squared factor correlations exceeded the AVE values for each dimension (i.e., the dimensions for transformational parenting were highly correlated; $.89 < r < .98$). These findings are consistent with a growing body of measurement research on transformational leadership in both organizational (Bycio et al., 1995) and educational (e.g., Beauchamp et al., 2010; Beauchamp, Barling, & Morton, in press) settings, which have reported high inter-factor correlations among

these four dimensions. As an explanation for this phenomenon, it has been suggested that the dimensions comprising transformational leadership are expected to be mutually reinforcing as they are grouped under the same class of leadership behaviour (Bass, 1985).

In light of these findings we subsequently conducted two CFAs, for mothers and fathers, respectively, whereby transformational parenting was specified as a unidemensional construct (model b). In each case the fit indices were acceptable, but were inferior to the four-factor model (See Table 3.3). Specifically for mothers, χ^2 (67) = 545.2, p<. 001, CFI = .892, TLI = .989, RMSEA = .093, factor loadings ranged from .62 to .84, CR = .96, AVE = .59; and fathers, χ^2 (59) = 508.1, p<. 001, CFI = .914, TLI = .991, RMSEA = .104, factor loadings ranged from .70 to .86, CR = .97, AVE = .66.

In light of these findings (See Table 3.3 for a comparison of fit between the models), and consistent with Beauchamp et al. (2010), we examined two second-order models (model c), for mothers and fathers separately. In these models, the four first-order latent factors were specified as contributing towards a higher-order construct, termed transformational parenting, which recognizes the fact that the four transformational parenting dimensions are conceptually distinct, while also contributing towards a higher-order transformational parenting construct. For mothers, this second-order model of transformational parenting provided evidence of good model fit: χ^2 (66) = 413.4, p < . 001, CFI = .921, TLI = .992, RMSEA = .080. Similarly, for fathers, this second-order model of transformational parenting also provided evidence of acceptable model fit: χ^2 (58) = 364.9, p<. 001, CFI = .941, TLI = .994, RMSEA = .087. Pattern coefficients for this second-order model of transformational parenting for mothers and fathers were all significant (ranging from .66 to .86 for mothers and .73 to .89 for fathers) and are presented in Table 3.4. In

addition, the reliability and convergent validity of this higher-order measurement model (including all 16 items) was also confirmed by the composite reliability values.

For mothers, the higher-order CR = .97 (II = .86, IM = .86, IS = .81, IC = .84) and for fathers, the higher-order CR = .98 (II = .89, IM = .89, IS = .87, IC = .87). Acceptable values were also observed for the average variance extracted. Specifically, for mothers, the higher-order AVE = .90 (II = .60, IM = .59, IS = .51, IC = .55) and for fathers, the higher-order AVE = .94 (II = .68, IM = .67, IS = .62, IC = .63).

In sum, the four factor models (model a) produced better fit statistics (See Table 3.3) than the unidimensional models (model b), however these models lacked discriminant validity between the dimensions. The second-order models (model c) specify that a higher-order transformational parenting factor underlies the data, and also allows researchers to create an overall indicator of transformational parenting for use in subsequent analyses. Taken together, the second-order measurement model represents the most appropriate operationalization of measures derived from the TPQ.

Table 3.3. Comparison of fit indices

Model	χ^2	CFI	TLI	RMSEA	Loadings	CR[a]				AVE[b]			
						II	*IM*	*IS*	*IC*	*II*	*IM*	*IS*	*IC*
(a) Four Factor Model													
Mothers	409.3*	.922	.992	.079	.66 - .86	.89	.88	.84	.86	.67	.66	.57	.61
Father	339.9*	.946	.994	.084	.73 - .89	.91	.91	.88	.89	.73	.71	.66	.68
(b) Unidimensional Model													
Mothers	545.2*	.892	.989	.093	.62 - .84	----------.96----------				----------.59----------			
Father	508.1*	.914	.991	.104	.70 - .86	----------.97----------				----------.66----------			
(c) Second-Order Model													
Mothers	413.4*	.921	.992	.080	.66 - .86	.86	.86	.81	.84	.60	.59	.51	.55
Father	364.9*	.941	.994	.087	.73 - .89	.89	.89	.87	.87	.68	.67	.62	.63

* $p < .01$

II: Idealized Influence; IM: Inspirational Motivation; IS: Intellectual Stimulation; IC: Individualized Consideration.

[a] Ordinal Composite Reliability = Σ (std. loadings)^2 / Σ (std. loadings)^2 + Σ (1- std. loadings^2)

[b] Average Variance Extracted = Σ (std. loadings^2) / Σ (std. loadings^2) + Σ (1- std. loadings^2)

Table 3.4. Pattern coefficients for second-order confirmatory model of transformational parenting for mothers (n=831) and fathers (n=706).

Item	Mothers			Fathers		
	Unstandardized Pattern Coefficients (SE)	Standardized Pattern Coefficients	R^2	Unstandardized Pattern Coefficients (SE)	Standardized Pattern Coefficients	R^2
First-order Factor Estimates						
Idealized Influence (II)						
1	1.00 (.00)	.76	.58	1.00 (.00)	.82	.66
5	1.09 (.02)	.83	.68	1.05 (.02)	.86	.74
9	1.08 (.03)	.82	.68	1.05 (.02)	.85	.73
13	1.13 (.02)	.86	.73	1.09 (.02)	.89	.78
Inspirational Motivation (IM)						
2	1.00 (.00)	.77	.59	1.00 (.00)	.79	.63
6	1.11 (.03)	.85	.73	1.11 (.02)	.88	.78
10	1.05 (.03)	.81	.66	1.05 (.02)	.83	.69
14	1.03 (.03)	.80	.64	1.08 (.02)	.86	.74
Intellectual Stimulation (IS)						
3	1.00 (.00)	.66	.43	1.00 (.00)	.73	.53
7	1.09 (.04)	.71	.51	1.07 (.03)	.78	.61
11	1.23 (.04)	.81	.66	1.17 (.03)	.86	.73
15	1.26 (.05)	.82	.68	1.19 (.03)	.87	.76
Individualized Consideration (IC)						
4	1.00 (.00)	.76	.58	1.00 (.00)	.82	.67
8	1.01 (.03)	.77	.59	0.99 (.02)	.81	.66
12	1.07 (.03)	.81	.66	1.02 (.03)	.83	.69
16	1.03 (.03)	.78	.61	1.02 (.02)	.83	.70
Second-order Factor Estimates						
II	1.00 (.00)	.97	.95	1.00 (.00)	.96	.93
IM	1.02 (.03)	.97	.95	0.99 (.02)	.98	.95
IS	0.81 (.03)	.92	.85	0.88 (.03)	.94	.89
IC	1.02 (.03)	.99	.98	1.03 (.02)	.99	.98

Relationships between Transformational Parenting and Adolescent Self-Regulatory Efficacy and Life Satisfaction

Descriptive statistics and bivariate correlations between the variables are presented in Table 3.5. Relationships between adolescents' perceptions of transformational parenting and (a) self-regulatory efficacy for physical activity, (b) self-regulatory efficacy for healthy eating, and (c) life satisfaction were assessed through separate latent variable regression (LVR) analyses (using M*plus* Version 5.21). LVR allows the construction of unobserved (latent) variables (i.e., transformational parenting) from observed variables and simultaneously models the structural paths (i.e., theoretical relationships among latent variables) and measurement paths (i.e., relationships between a latent variable and its indicators). In this sense, latent variable regression analysis is preferable to techniques such as multiple regression analysis which assumes error free measurement and therefore potentially produce biased estimates (Muthén, 2002). For each LVR, adolescent rating of mothers' and fathers' transformational parenting behaviours (operationalized as second-order models) were specified as separate independent predictors and each of the self-regulatory cognitions and life satisfaction measures entered as dependent variables. In addition, to examine the relative importance of mothers' and fathers' transformational parenting behaviours on each adolescent health-related outcome, a Relative Pratt Index (RPI; Thomas, Hughes & Zumbo, 1998) was calculated for each outcome variable, which partitions the model variance (R^2) into the proportion attributable to each independent variable. Zumbo (2007) introduced the RPI for latent variable regression models. The RPI is computed in the following manner: the β weight is multiplied by the simple correlation and this number is divided by the R^2 value. An index score less than 1/ (2 x number of predictor variables) is classified as unimportant

(Thomas, 1992). The cut-off value was .25 for each of the LVR analyses, indicating that any RPI value below this is considered unimportant (Thomas, 1992).

Self-regulatory efficacy for physical activity. Adolescent perceptions of transformational parenting explained 11.6% of the variance in adolescents' self-regulatory efficacy beliefs for physical activity, χ^2 (130) = 1032.1, $p < .001$, CFI = .940, TLI = .991, RMSEA = .090. Specifically, perceptions of both mothers' ($\beta = .152$, $p < .01$; latent variable correlation with self-regulatory efficacy for physical activity = 0.30) and fathers' ($\beta = .216$, $p < .001$; latent variable correlation with self-regulatory efficacy for physical activity = 0.32) transformational parenting behaviours were found to be significant predictors of self-regulatory efficacy for physical activity. The RPI was applied to the variables in the model to determine variable importance. Of the 11.6% accounted for by the model, mothers' transformational parenting accounted for 39.7% (RPI = .397) and fathers' transformational parenting accounted for 60.3% (RPI = .603).

Self-regulatory efficacy for healthy eating. Adolescent perceptions of transformational parenting explained 13.1% of the variance in self-regulatory efficacy for healthy eating, χ^2 (119) = 640.9, $p < .001$, CFI = .953, TLI = .993, RMSEA = .072. Specifically, perceptions of both mothers' ($\beta = .244$, $p < .001$; latent variable correlation with self-regulatory efficacy for healthy eating = 0.35) and fathers' ($\beta = .146$, $p < .05$; latent variable correlation with self-regulatory efficacy for healthy eating= 0.32) transformational parenting behaviours were found to predict self-regulatory efficacy for healthy eating. The RPI revealed that of the 13.1% accounted for by the model, mothers' transformational parenting accounted for 64.4% (RPI = .644) and fathers' transformational parenting accounted for 35.6% (RPI = .356).

Life Satisfaction. Adolescent perceptions of transformational parenting also explained 28.8% of the variance in adolescent satisfaction with life, χ^2 (147) = 526.5, $p < .001$, CFI = .943,

TLI = .993, RMSEA = .055. Specifically, perceptions of both mothers' (β = .322, p < .001; latent variable correlation with life satisfaction = 0.50) and fathers' (β = .260, p < .001; latent variable correlation with life satisfaction = 0.49) transformational parenting behaviours were found to be significant predictors of adolescent satisfaction with life. The RPI for this regression analysis indicated that of the 28.8% of the variance accounted for by the model, 56.4% was accounted for by mothers' transformational parenting (RPI = .564) and 43.6% was accounted for fathers' transformational parenting (RPI = .436).

Table 3.5. Descriptive statistics and intercorrelations for transformational parenting scores and adolescent health-related outcomes

Variable	M	SD	1	2	3	4	5
1. Transformational Parenting (Mothers)	61.34	14.03	-	.70**	.30**	.35**	.50**
2. Transformational Parenting (Fathers)	59.81	15.58		-	.32**	.32**	.49**
3. Adolescents' Self-Regulatory Efficacy (Physical Activity)	67.15	21.37			-	.33**	.21**
4. Adolescents' Self-Regulatory Efficacy (Healthy Eating)	64.26	23.04				-	.24**
5. Adolescents' Life Satisfaction	3.54	.96					-

Note: ** $p < .001$. Scale ranges include 0-80 for transformational parenting, 0-100 for self-regulatory efficacy and 1-5 for life satisfaction.

Discussion

It has been argued that transformational leadership is, in many ways, synonymous with effective parenting (Popper & Mayseless, 2003). As parents have considerable potential to support the health-enhancing behaviours of adolescents, and buffer the adoption of health-compromising behaviours among this population, applying transformational leadership theory to the parenting domain provides a sound conceptual framework from which to understand and potentially foster parenting behaviours in relation to adolescent health and well-being (Morton, Barling, et al., 2010). In spite of the potential of transformational leadership theory to inform our understanding of the influence of parenting behaviours in relation to adolescent development, research in this area has been largely restricted by the absence of an instrument to measure transformational parenting. Taken together, the results of this study provide initial support for the construct validity of measures derived from the TPQ. To develop the TPQ, we made use of a variety of instrument development procedures (e.g., focus groups, expert reviewers) to ensure that evidence was provided for content and substantive aspects of validity and that items were appropriate for use with adolescents. Furthermore, the present study provides initial evidence for structural validity, with a second-order model fitting the data well and representing the most empirically supportable operationalization of the TPQ.

In addition to establishing support for the psychometric properties of the TPQ, the external validity findings are equally noteworthy. First, adolescents' perceptions of both their mothers' and fathers' transformational parenting behaviours predicted adolescents' self-regulatory efficacy beliefs for both physical activity and healthy eating. Even though some may consider the overall predictive power of these LVR models to be "small" (i.e., 13.1% and 11.6% of the variance in self-regulatory efficacy for healthy eating and physical activity respectively),

even small amounts of explained variance are still considered important, especially in applied research (Prentice & Miller, 1992). From an adolescent health perspective, this finding is particularly salient, as a growing body of evidence has accumulated which indicates that adolescent self-regulatory efficacy is an important predictor of both physical activity (Ryan & Dzewaltowski, 2002; Shields et al., 2008) and healthy eating (Anderson et al., 2007). Interestingly, although adolescents' perceptions of both mothers' and fathers' transformational parenting scores were significant predictors of self-regulatory efficacy for both physical activity and healthy eating (a) mothers' behaviours were a stronger predictor in relation to healthy eating beliefs, whereas (b) fathers' behaviours were a stronger predictor of adolescents' perceived physical activity capabilities (as determined by the Relative Pratt Indices in the respective regression models). This finding is consistent with recent research which indicates a stronger influence of fathers on the physical activity of adolescents (Gustafson & Rhodes, 2006) and the stronger relative influence of mothers on adolescent nutrition (Scaglioni, Salvioni, & Galimberti, 2008).

In addition to the prediction of self-regulatory beliefs, adolescents' perceptions of their parents' transformational behaviours explained 28.8% of the variance in their reports of life satisfaction. Satisfaction with life represents a major component of subjective well-being, and has consistently been found to be an important psychological strength that facilitates adaptive development among adolescents (Antaramian et al., 2008). For example, adolescents who perceive their satisfaction with life to be high demonstrate higher levels of social functioning and physical health than youth with low life satisfaction (Greenspoon & Saklofske, 2001). Of note, perceptions of both mothers and fathers demonstrated equivalent effects in relation to adolescent life satisfaction (i.e., as indicated by the RPI's for this regression model). This is consistent with

previous research that has shown both parents to be important in the establishment of subjective well-being in adolescents (Young, Miller, Norton, & Hill, 1995).

Despite evidence of the external aspect of construct validity, limitations within the research should be noted. First, the design of this study was cross-sectional in nature and, as such, potentially increases the possibility of common method variance in participants' responses. That said, it should be noted that a different response format was used in the assessment of the predictor and criterion measures, which has been shown to mitigate common method bias in behavioural research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In future, both longitudinal and experimental research will be required to more accurately ascertain the predictive validity of the transformational parenting construct in relation to both adolescent self-regulation and indices of well-being, and to enable causal inferences about transformational parenting. Second, while measures derived from the TPQ predicted three important health-enhancing cognitions, we did not assess the predictive utility of the transformational parenting construct in relation to objective measures of health behaviour among adolescents (e.g., physical activity, healthy diet). Given that a significant amount of variance in both self-regulatory-efficacy for physical activity (11.6%) and healthy eating (13.1%) was explained by adolescents' perceptions of their parents' behaviours, future prospective and experimental research is encouraged that examines the extent to which transformational parenting behaviours predict objective measures of adolescent physical activity and healthy eating, and whether these relationships are mediated by adolescents' perceived self-regulatory capabilities.

Another limitation of the present study surrounds the operationalization of transformational parenting as a globalized construct (as reflected by a higher-order transformational parenting factor) in the prediction of adolescent health-related cognitions.

Indeed, one of the drawbacks in leadership research has been an oversimplification of the factors underlying the conceptualization of transformational leadership (cf. Antonakis, Avolio, & Sivasubramaniam 2003). The relative usefulness of separate subscale scores (a *differentiated* approach) or a higher-order transformational parenting score (a *globalized* approach) is an empirical matter that warrants further research. For example, the separate behaviours have been demonstrated to be empirically distinct at a measurement level and have also been shown to differentially predict outcomes (e.g., Antonakis et al., 2003; Hardy et al., 2010; Callow, Smith, Hardy, Arthur, & Hardy, 2009) despite high inter-factor correlations. In addition, in terms of designing, implementing and evaluating future transformational parenting interventions, separate transformational parenting scale scores may provide more informed feedback to parents with regards to their relative strengths and weaknesses. In spite of these limitations, this study provides preliminary support for the application of transformational leadership theory to the domain of parenting and suggests that adolescents' perceptions of transformational parenting behaviours (conceptualized as a global/higher-order construct) may represent an important predictor of adaptive adolescent growth and development.

The present study provided evidence of several aspects of construct validity (e.g., content, substantive, structural and external aspects). Future studies should also seek to establish evidence of the *generalizability* aspect of validity (i.e., extent to which scores on the TPQ generalize across different populations, such as younger children or older adolescents). Furthermore, future studies should look to cross-validate measures derived from the TPQ using another sample to confirm the factor structure demonstrated in the present study. As validity is seen as an ongoing process of "hypothesis generation, data collection and testing, critical evaluation and logical inference" (Downing, 2003, p. 831), future research should examine other theoretically plausible mediators

of the relationships between transformational parenting and healthy adolescent development and well-being (Morton, Barling, et al., 2010). These may include additional intra-personal (adolescents' self-perceptions) mediators of parenting and adolescent health, such as self-determined motivation and self-esteem. In addition, relevant inter-personal (adolescents' perceptions of their parents) mediators of parenting and adolescent health might also be examined, such as parental attachment and trust in the parent. Future research might also focus on whether transformational parenting behaviours are related to other behaviours associated with adolescent development, such as the extent to which transformational parenting might act as a protective resource against adolescents engaging in health-compromising activities (e.g., smoking, alcohol consumption, illicit drug use), which tend to emerge during this same critical developmental period (Williams et al., 2002) . Consistent with the tenets of transformational leadership theory, one might expect that adolescents would engage in fewer health-compromised behaviours when parent-adolescent interactions are characterized by (a) demonstration of personally held values (idealized influence), (b) a compelling vision of a healthful future (inspirational motivation), (c) respect for the rationality of adolescents (intellectual stimulation) and (d) consideration of adolescents' psychological and physical needs (individualized consideration).

From an applied perspective, research has consistently demonstrated that transformational behaviours can be developed through interventions (Barling et al., 1996; Hardy et al., 2010). Given that adolescence is a critical period during which both health-enhancing and health-compromising cognitions and behaviours are developed, future research is also warranted that tests the efficacy of transformational parenting interventions in relation to improving parenting behaviours and also targets the healthy development and subjective well-being of adolescents

(Morton, Barling, et al., 2010). In conclusion, the results of this research provide preliminary evidence for the construct validity of measures derived from the TPQ.

Research in this area provides exciting opportunities to not only test the external validity of transformational leadership theory in relation to healthful adolescent development, but also develop evidence-based interventions that support the adaptive growth, well-being, and enhancement of pro-social behaviours among this population.

Chapter 4: Transformational Parenting, Physical Activity and Life Satisfaction among Adolescents: A Pilot Intervention Study

Introduction

Sedentary lifestyles are associated with a range of health problems during youth and, if continued into adulthood, may contribute to the development of chronic conditions such as cardiovascular disease, Type 2 diabetes, certain cancers and osteoporosis (Bauman, 2004; U.S. Department of Health and Human Services, 2000). It is during adolescence that many health-enhancing behaviours such as regular physical activity are strengthened (Williams et al., 2002), and several of the short-term health benefits of physical activity, such as enhanced bone and mental health, become pronounced (Baranowski et al., 2000; Hallal et al., 2006). Furthermore, it is becoming increasingly recognized that measures of optimal adolescent functioning should include *positive* indicators of health, such as life satisfaction, rather than simply equating adolescent health and well-being with an absence of disease and/or health-compromising behaviours (Antaramian et al., 2008). This body of research evidence underscores the need for cost-effective interventions that focus on establishing and consolidating health enhancing cognitions and behaviours (such as physical activity) as well as overall life satisfaction among adolescents.

Parenting and Leadership: Two Sides of the Same Coin?

The important influence of *parents* in fostering optimal adolescent functioning (i.e., the promotion of physical activity and life satisfaction) is widely recognized (e.g., Gustafson & Rhodes, 2006; Huebner et al., 2000; Suldo & Huebner, 2004; Trost et al., 2003). In recent years, it has been suggested that effective *leadership* is needed within families (Galbraith & Schvaneveldt, 2005). Indeed, the similarities between leadership and parenting (Popper &

Mayseless, 2003; Morton, Barling, et al., 2010) open up conceptual and empirical opportunities to investigate the predictive utility of applying a model of leadership to the parenting domain to understand how parenting behaviours can foster adaptive health-enhancing outcomes among adolescents. Both leadership and parenting are concerned with influencing others towards common goals/objectives, and both leaders (within organizational settings) and parents (within families) require effective leadership behaviours in order to fulfil their respective roles (cf. Popper & Mayseless, 2003). For example, parenting and leadership both require a vision in order to inspire and motivate others to achieve their goals. In addition, good parenting and leadership require trust, integrity and empathy in order to foster the quality of the relationship between leaders (or parents) and those being led (or adolescents).

Transformational Parenting

The central framework utilized within this dissertation corresponds to transformational leadership theory (Bass & Riggio, 2006). As highlighted in chapter 2 of this dissertation, transformational leadership has been applied to a range of diverse organizations and settings, including the military (Hardy et al., 2010; Kane & Tremble, 2000), businesses and organizations (Avolio et al., 2004; Barling et al., 1996), sport (Charbonneau et al., 2001; Tucker et al., 2010), physical education (Beauchamp et al., 2010, Beauchamp et al., in press; Morton, Keith, & Beauchamp, 2010) and, more recently, parenting (Galbraith & Schvaneveldt, 2005; Morton, Barling, et al., 2010; Morton et al., in press). Research has consistently demonstrated that transformational leadership behaviours are associated with a host of adaptive outcomes among those being led, such as greater motivation (Beauchamp et al., 2010; Charbonneau et al., 2001; Piccolo & Colquitt, 2006), self-efficacy (Avolio et al., 2004; Kark et al., 2003) and well-being (Arnold et al., 2007).

When applied to the field of parenting, and consistent with transformational leadership theory, Morton, Barling, et al., (2010) conceptualized *transformational parenting* as involving behaviours that empower and inspire those being led to achieve higher levels of functioning. Furthermore, and consistent with Bass and Riggio's framework, Morton, Barling, et al., conceptualized transformational parenting as comprising four behavioural dimensions, *idealized influence*, *inspirational motivation*, *intellectual stimulation*, and *individualized consideration*.

Enhancing Transformational Parenting: The Present Study

From an applied perspective, a growing body of evidence within the organizational psychology domain suggests that transformational behaviours can be developed through short-term interventions, including one-day workshops (Barling et al., 1996; Kelloway and Barling, 2000). In addition, this research demonstrates that interventions guided by transformational leadership theory, result in improved attitudinal and behavioural outcomes among followers (Avolio et al., 2009). In relation to physical activity promotion with youth, the efficacy of a transformational *teaching* intervention has been demonstrated by Beauchamp and colleagues (Beauchamp et al., 2011). In this feasibility trial, physical education teachers were subject to a one-day transformational leadership workshop. After controlling for baseline measures, adolescents in the intervention condition rated their teachers as displaying significantly higher levels of transformational teaching, and reported significantly higher levels of self-determined motivation, self-efficacy, and intentions to be physically active than those in the control group, two months after the workshop.

The overall purpose of this study was to develop and evaluate a pilot intervention designed to enhance parents' transformational behaviours, as assessed by their adolescent children (proximal outcome) and examine the effects of the intervention on parenting efficacy

and several key physical activity related cognitions and behaviours and life satisfaction among adolescents (distal outcomes). A pilot study is a small-sample study conducted as a prelude to a larger scale study or randomized controlled trial (RCT). A pilot study represents a useful means to test the design and procedures to be implemented within an intervention program (Jairath, Hogerney, & Parsons, 2000). It is important to pilot test interventions for two main reasons. First, the lessons learned in a pilot study can prevent major problems that could not be anticipated before collecting data in larger scale RCTs. Second, and perhaps more importantly, it is unethical to conduct a study involving large numbers of participants that proves to be inconclusive because of problems that could have been detected with a well-planned pilot study.

In terms of the present study's proximal outcome (perceptions of transformational parenting) and also in relation to perceptions of parenting self-efficacy, the framework for guiding transformational leadership interventions presented by Kelloway and Barling (2000) has direct relevance. Specifically, a transformational *parenting* intervention is heavily grounded in social learning theory (Bandura, 1986) whereby practical examples of transformational behaviours in relation to parenting (especially in terms of physical activity promotion) and feedback on the performance of such behaviours is provided to parents in the intervention. Given findings that transformational behaviours can be fostered through short-term interventions that use this framework (Barling et al., 1996; Beauchamp et al., 2011), it was predicted that following the intervention, parents in the experimental condition would be rated as being more transformational by their adolescent children (and also by themselves) relative to parents in the control condition (hypothesis 1).

An important goal of transformational leadership interventions is to convince leaders that they can make a difference and bolster their confidence (vis à vis self-efficacy) to achieve their

objectives (Kelloway & Barling, 2000). Parenting self-efficacy (parents' beliefs about their capabilities in the parenting role) is central to the success of any parenting intervention. Evidence suggests that self-efficacy beliefs may mediate the effects of parenting behaviours and the quality of parenting in relation to adolescent outcomes (Coleman & Karraker, 2000; Teti & Gelfand, 1991). It was hypothesized that parents in the intervention condition would develop a greater sense of both general parenting self-efficacy (i.e., confidence to overcome child-management and parenting problems) and parenting self-efficacy to influence their child's physical activity (i.e., confidence to get the child involved in physical activities outside of school) in comparison to controls (hypothesis 2).

In terms of distal outcomes of the present study, and to evaluate the effectiveness of the intervention, we assessed whether the intervention led to changes in adolescent physical activity cognitions and behaviours, as well as life satisfaction. In relation to physical activity, research in the adolescent health domain has demonstrated the importance of various social cognitions that are associated with increased physical activity behaviours in youth, including self-determined motivation (Cox, Smith, & Williams, 2008; Lonsdale et al., 2009), self-regulatory efficacy (Dishman, Dunn, Sallis, Vandenberg, & Pratt, 2009; Shields et al., 2008), and physical activity intentions (Rhodes, MacDonald, & McKay, 2006; Maddison et al., 2009).

Adolescent Physical Activity Social Cognitions and Behaviour

From a self-determination theory perspective (SDT; cf. Deci & Ryan, 1991), human behaviour can be broadly categorised as intrinsically motivated, extrinsically motivated, or amotivated. *Intrinsic* motivation represents engagement in behaviour for itself and for the pleasure and satisfaction derived from participation, and is the most self-determined form of motivation. Self-determined motivation (intrinsic motivation) has been highlighted in the

physical activity literature as a key correlate of subsequent leisure time physical activity behaviours in youth (Cox et al., 2008; Standage, Duda, & Ntoumanis, 2003). There are several reasons for proposing that transformational leadership may be a contextual predictor of self-determined motivation. Transformational leaders help followers to internalize goals and motivations and to feel autonomous, even though they are being directed by a leader (cf. Sheldon et al., 2003). For example, the demonstration of leaders' personally held values and beliefs (*idealized influence*) increases the likelihood that followers will identify with the values the leader espouses. In addition, the component of transformational leadership that focuses on encouraging individuals to think for themselves and to approach old problems in new ways (*intellectual stimulation*) is likely to increase knowledge, learning, and understanding, thus enhancing feelings of competence (Charboneau et al., 2001). Similarly, leaders who raise individuals' expectations about what they can achieve (*inspirational motivation*) are likely to increase feelings of accomplishment as individuals take on greater responsibilities (Bass, 1985). Finally, intrinsic motivation is also more likely to flourish in contexts characterized by a sense of secure *relatedness*, especially when significant others in the social environment are percieved as warm and caring (Ryan & La Guardia, 2000). This concept directly mirrors *individualized consideration*, whereby leaders recognize individual needs and display genuine care and concern for followers. Empirical research in the context of sport (Charbonneau et al., 2001) and physical education (Beauchamp et al., 2010; Beauchamp et al., 2011) has supported the theoretical assertations that perceptions of transformational leadership are associated with enhanced self-determined motivation. With this in mind, we predicted that adolescents in the intervention condition would display higher levels of self-determined motivation for physical activity relative to those adolescents in the control condition (hypothesis 3).

From a social cognitive theory perspective (cf. Bandura, 1997), the belief that one has in his/her ability to engage in a specific behaviour (self-efficacy), is central to the regulation of that behaviour. For example, the more efficacious individuals judge themselves to be, the higher the goals they set for themselves and the more committed they remain to those goals (Locke & Latham, 1990). Bandura posited that for successful behaviour change, *self-regulatory* efficacy is more important than 'performance' self efficacy. For example, the issue is not whether one can do the activities occasionally, but whether one has the efficacy to overcome potential barriers in order to undertake the activities on a regular basis. Self-regulatory efficacy is positively associated with a number of health-enhancing behaviours, such as physical activity (Ryan & Dzewaltowski, 2002). In addition, a recent study by Shields et al., (2008) demonstrated that the family was a significant determinant of adolescents' self-regulatory efficacy, which in turn predicted adolescents' participation in physical activity. One of the key postulates of transformational leadership theory is that transformational leaders empower (rather than control) followers (Kanungo & Mendonca, 1998), thus encourage followers to go beyond what they originally thought was possible (Kark et al., 2003; Kirkpatrick & Locke, 1996). Transformational leadership behaviours, such as role modelling (*idealized influence*), and verbal persuasion (*inspirational motivation*) appear to parallel the sources of self-efficacy (Pillai & Williams, 2004; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). For example, transformational leaders communicate high performance expectations and display optimism for followers' ability to meet such expectations (Shamir et al., 1993), which directly mirrors the notion of verbal persuasion. Furthermore, in a recent cross-sectional study, Morton et al., (in press) found support for the hypothesis that adolescent perceptions of transformational parenting behaviours are associated with their self-regulatory efficacy beliefs for physical activity. Thus, we predicted that

adolescents in the intervention condition would display higher levels of self-regulatory efficacy for leisure-time physical activity relative to adolescents in the control condition (hypothesis 4).

The final social cognition targeted in the present study corresponded to adolescents' intentions to take part in physical activity during their leisure time. In accordance with the theory of planned behaviour (Ajzen, 1991), an individual's intention is the strongest predictor of subsequent behaviour. In terms of physical activity, research in youth has demonstrated that intentions to be physically active predict subsequent physical activity behaviours (Rhodes et al., 2006; Maddison et al, 2009). Consistent with the tenets of transformational leadership theory, transformational leaders raise the perceived importance and values of selected outcomes and motivate and inspire those being led to exceed their own expectations as to what they can achieve (Bass & Riggio, 2006). Thus, we predicted that adolescents in the intervention condition would report greater intentions to be physically active during their own leisure time than those in the control condition (hypothesis 5).

As highlighted in the section above, an extensive body of research has found evidence to suggest that self-determined motivation (e.g., Lonsdale et al., 2009), self-efficacy (e.g., Ryan & Dzewaltowski, 2002) and intentions (e.g., Maddison et al., 2009) represent important predictors of subsequent physical activity behaviours and active lifestyles. Furthermore, a growing body of literature suggests that transformational leadership demonstrates substantive effects on behavioural outcomes such as effort exerted and work performance (Lowe, Koreck, & Sivasusbramiam, 1996; Judge & Piccolo, 2004). Thus, if transformational parenting is found to predict elevated levels of self-determined motivation (hypothesis 3), self-regulatory efficacy (hypothesis 4) and physical activity intentions (hypothesis 5), then in accordance with the basic tenets of self-determination theory (cf. Deci & Ryan, 2000) self-efficacy theory (Bandura, 1997)

and the theory of planned behaviours (Ajzen, 1991), one would expect transformational parenting to be related to greater adoption and maintenance of physical activity behaviours by adolescents. Thus, drawing from objective (i.e., accelerometry) as well as subjective (i.e., self-reported) measures of physical activity it was hypothesized that adolescents involved in the intervention condition will demonstrate higher levels of moderate to vigorous leisure-time physical activity (MVPA) relative to those in the control condition (hypothesis 6).

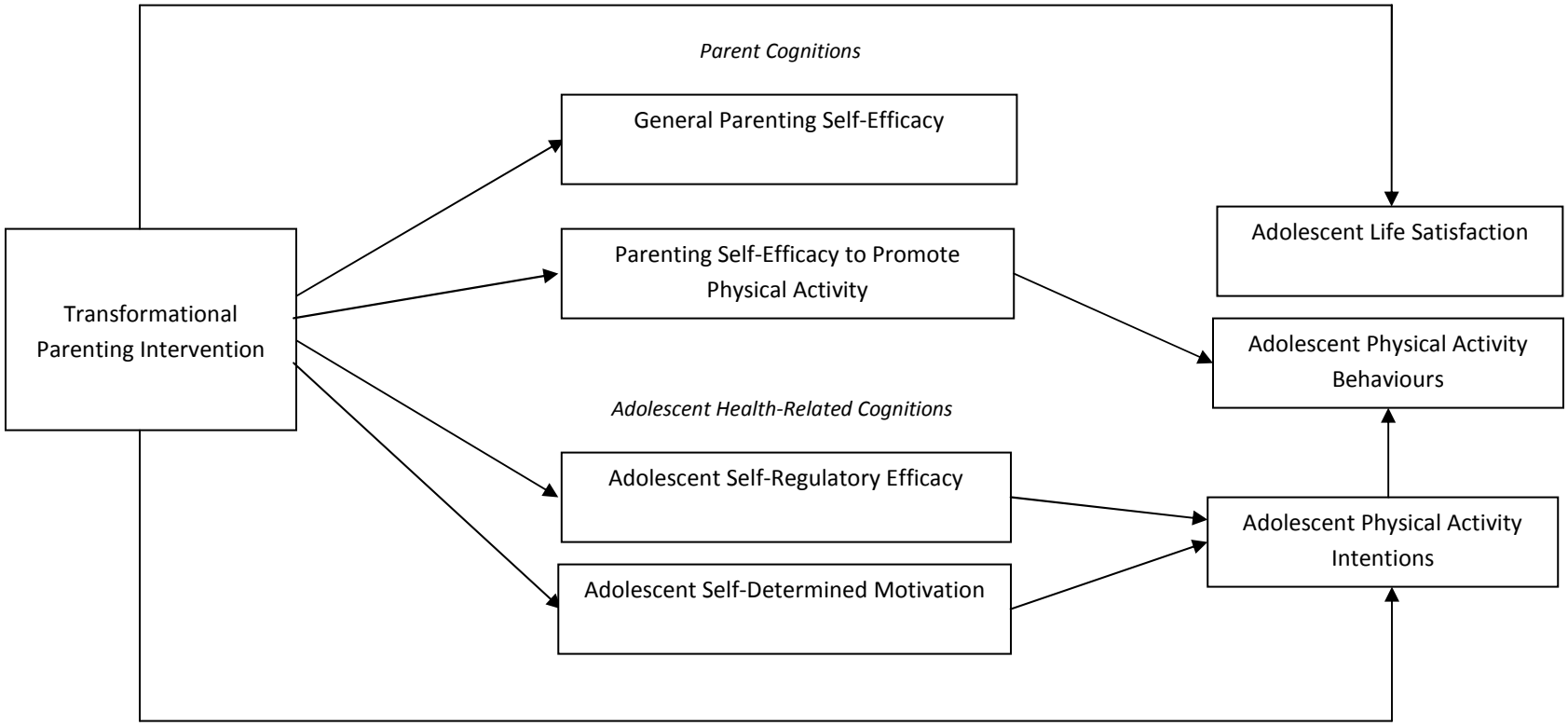
Life Satisfaction

In terms of the theoretical link between transformational parenting and adolescent life satisfaction, research has demonstrated that high-quality leadership (i.e., transformational leadership) has a positive influence on others' subjective well-being (Arnold et al., 2007; van Dierendonck et al., 2004). Subjective well-being refers to the positive and negative evaluations that people make of their lives, and includes individuals' emotional responses, domain satisfactions, and global judgments of life satisfaction (Diener et al., 1999). From a parenting perspective, research has consistently demonstrated that the perceived quality of adolescent-parent relationships is a strong predictor of adolescent well-being, especially life satisfaction (Dew & Huebner, 1994; Sastre & Ferriere, 2000; Suldo & Huebner, 2004). Furthermore, in a recent cross-sectional study, Morton et al., (in press) found that adolescent perceptions of transformational parenting behaviours explained a significant amount of variance (28.8%) in adolescent life satisfaction. With this in mind, we predicted that adolescents in the intervention condition would report higher levels of life satisfaction relative to those in the control condition (hypothesis 7).

Taken together, the intervention outlined in the present study is evaluated in terms of adolescents' perceptions of parents' transformational behaviours, parents' perceptions of their

parenting self-efficacy and adolescents' health-related cognitions and physical activity behaviours (see Figure 4.1). In addition, to further investigate the effects of the intervention and evaluate its feasibility, we also conducted a brief *process evaluation* whereby parents in the intervention condition completed an open ended survey to examine content ("what is done") and process ("how it is done") fidelity of program implementation (cf. Saunders, Evans & Joshi, 2005). Process evaluation seeks to understand why a program was or was not successful (Steckler & Linnan, 2002) and can provide information regarding how outcomes targeted within specific programs might be enhanced if aspects or features of the intervention could be improved. In this study, parents in the intervention condition completed an open-ended survey following the Time 2 data collection to enable an appraisal of the features of the intervention and, where appropriate, to highlight how the intervention could be modified for future initiatives (cf. Oakley, Strange, Bonell, Allen, & Stephenson, 2006).

Figure 4.1. Proposed model linking the transformational parenting intervention to parenting and adolescent outcomes



Methods

Participants and Recruitment

Participants were 22 parent-adolescent dyads (12 dyads in the intervention condition). Nineteen of the 22 parents were female and 3 were male (*M* age = 43.68 years, *SD* = 6.75; *range* 30 to 55). Of the parents involved in the study, 64% were married, 9% were living with a partner, 9% were single, and 18% were divorced or separated (one-parent families). In terms of ethnic background, 60% of parents were Canadian, 25% were Chinese and 15% were from other ethnicities. For the adolescents involved in the study, 15 were male and 7 were female (*M* age = 13.91 years, *SD* = 1.19; r*ange* 12 to 16). In terms of ethnic background, the majority of adolescents self-identified as being Canadian (70%), Chinese (20%), or another ethnicity (10%).

For a dyad to be eligible, the adolescent had to spend at least 50% of his or her time with the parent (defined as a biological parent, other relative, legal guardian, or other guardian), and the child had to be between the ages of 12-16 years of age at the time of enrolment in the study. Only one parent and adolescent per household were eligible for inclusion in this study. Furthermore, this pilot study was delimited to parents of 'inactive' adolescents. This was done for two main reasons. First, research has consistently highlighted that physical activity interventions should target the persistently inactive (cf. Aarnio, Winter, Pelonen, Kujala, & Kaprio, 2002), as adolescents who are not sufficiently active are at higher risk of obesity (Kemper, Post, Twisk, & Van Mechelen, 1999), and other chronic diseases, such as type 2 diabetes, hypertension and cardiovascular disease (Goran, Ball, & Cruz, 2003). Second, research in the transformational leadership domain suggests that transformational behaviours have a stronger effect on follower performance when followers face difficulties and challenging goals, and thus need more guidance (Whittington et al., 2004). This suggests that transformational parenting may actually be *more*

important and effective when adolescents are inactive and perhaps require more guidance from parents in relation to their health-behaviours. In order to delimit the study to parents of inactive adolescents, screening measures included the leisure-time section of the long version of the International Physical Activity Questionnaire (IPAQ; Craig et al., 2003), which was completed by adolescents. In order to be eligible to participate, adolescents had to be currently engaging in less than 150 minutes per week of MVPA in their leisure time. On average, adolescents reported engaging in 58.64 minutes of MVPA per week.

Procedures

After obtaining ethical approval from the Behavioural Research Ethics Board at The University of British Columbia (UBC), potential participants were recruited through an advertisement placed in a variety of local and provincial newspapers. Potential participants who responded to the advert were subsequently mailed/emailed a detailed letter of introduction (and a separate introduction letter for their adolescent child) at least two weeks before they were contacted to provide written informed consent. Specifically, parents were informed that the study was looking for parents of "inactive" adolescents (aged 12-16) to take part in a half-day workshop that focuses on supporting parents in their parenting role, especially in relation to their child's health-enhancing behaviours. All participants (parents and adolescents) were informed (via the letter of introduction) of the voluntary nature of the study, that they could withdraw at any time without experiencing any negative consequences, and that any information provided would remain anonymous. Parents were instructed to contact the project coordinator to set up a time for themselves and their child to provide written informed consent and baseline data. During this initial meeting, parents and adolescents were asked to complete the battery of measures (described in the following section) in separate rooms. All baseline data (for both intervention

and control conditions) were collected one-month prior to the intervention (September-October, 2010) and took place in the participants' respective homes (see Figure 4.2).

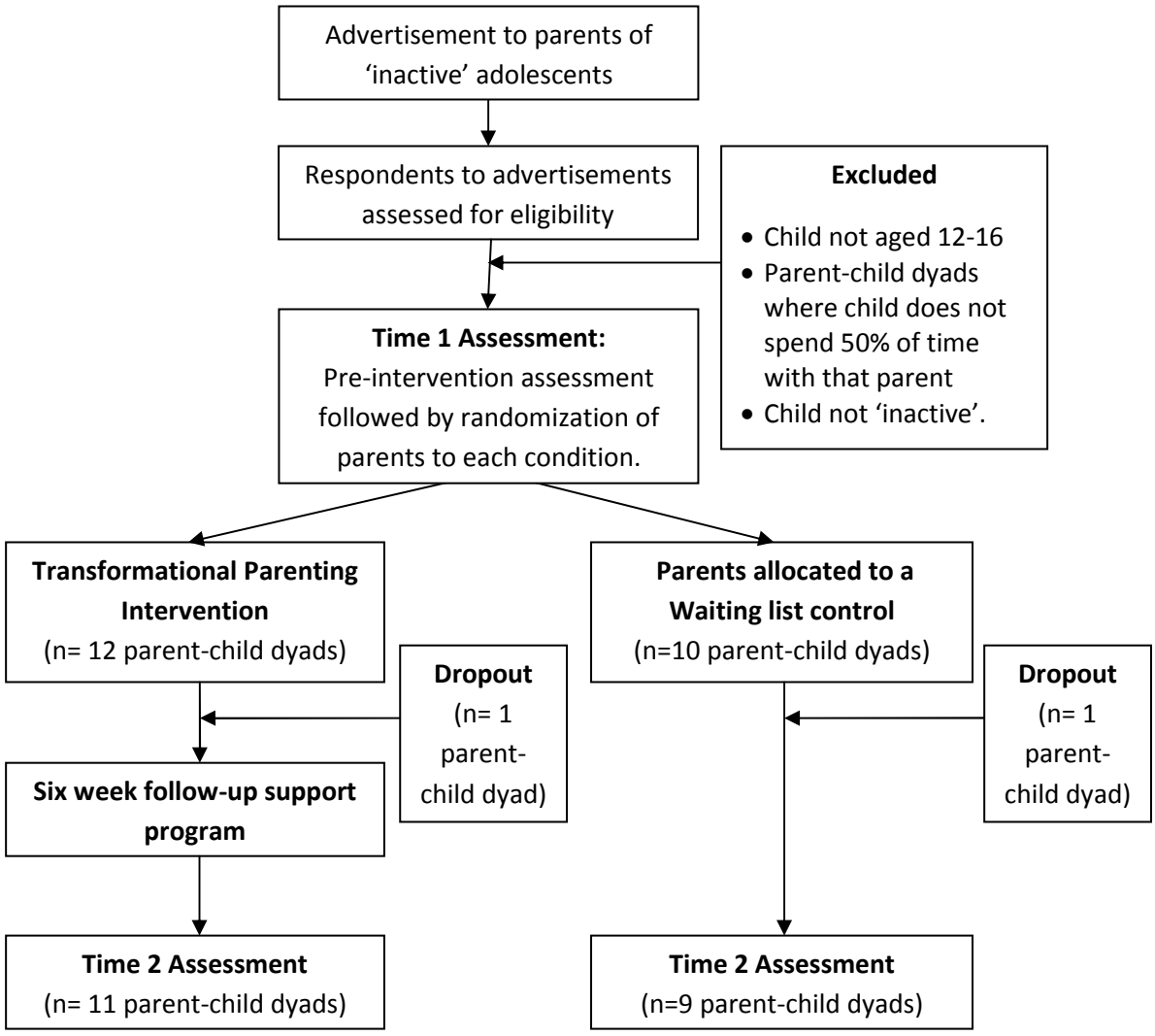
This study involved a randomized controlled trial design. Parents were randomized to either the "intervention" or a "waiting list control" condition following the Time 1 assessment. Following the randomization and baseline procedures as described above, parents assigned to the intervention condition were invited to take part in a half-day workshop (as well as the follow up support program). This workshop occurred approximately one month after baseline measures were obtained. Following the workshop, parents in the intervention condition participated in a follow up support program (see intervention description below). Six weeks after the workshop, data were collected on the same measures as at baseline following the same procedures as at the initial data collection (see Figure 4.2).

Intervention

A four-element conceptual framework (Kelloway & Barling, 2000) guided the transformational parenting intervention that was used in this study (see Figure 4.3). These four elements include (i) the presentation of transformational behavioural principles, (ii) a demonstration of transformational parenting principles, (iii) opportunities to practice transformational parenting principles, and (iv) the provision of feedback. A detailed review of the extant literature on parenting styles and practices in relation to adolescent health (Morton, Barling et al., 2010) has identified specific parenting strategies that are in many ways analogous to transformational leadership. Such specific behavioural principles (relevant to parenting contexts) were incorporated within the workshop in order to give parents practical examples of how transformational behaviours are manifested within the context of parenting (see Figure 4.3), and how these behaviours have the potential to influence their child's physical activity cognitions

and behaviours. In order to integrate the behavioural principles of transformational leadership, a series of video-clips and short stories were used throughout the workshop. Participant involvement and discussion was encouraged throughout, and parents were instructed to work in groups in order to discuss and analyze the leadership behaviours that were covered over the course of the workshop. This four-element approach is consistent with the propositions of social learning theory (Bandura, 1977), which emphasizes the acquisition of conceptual knowledge and the opportunity to practice and apply context-appropriate behaviours (Kelloway & Barling, 2000).

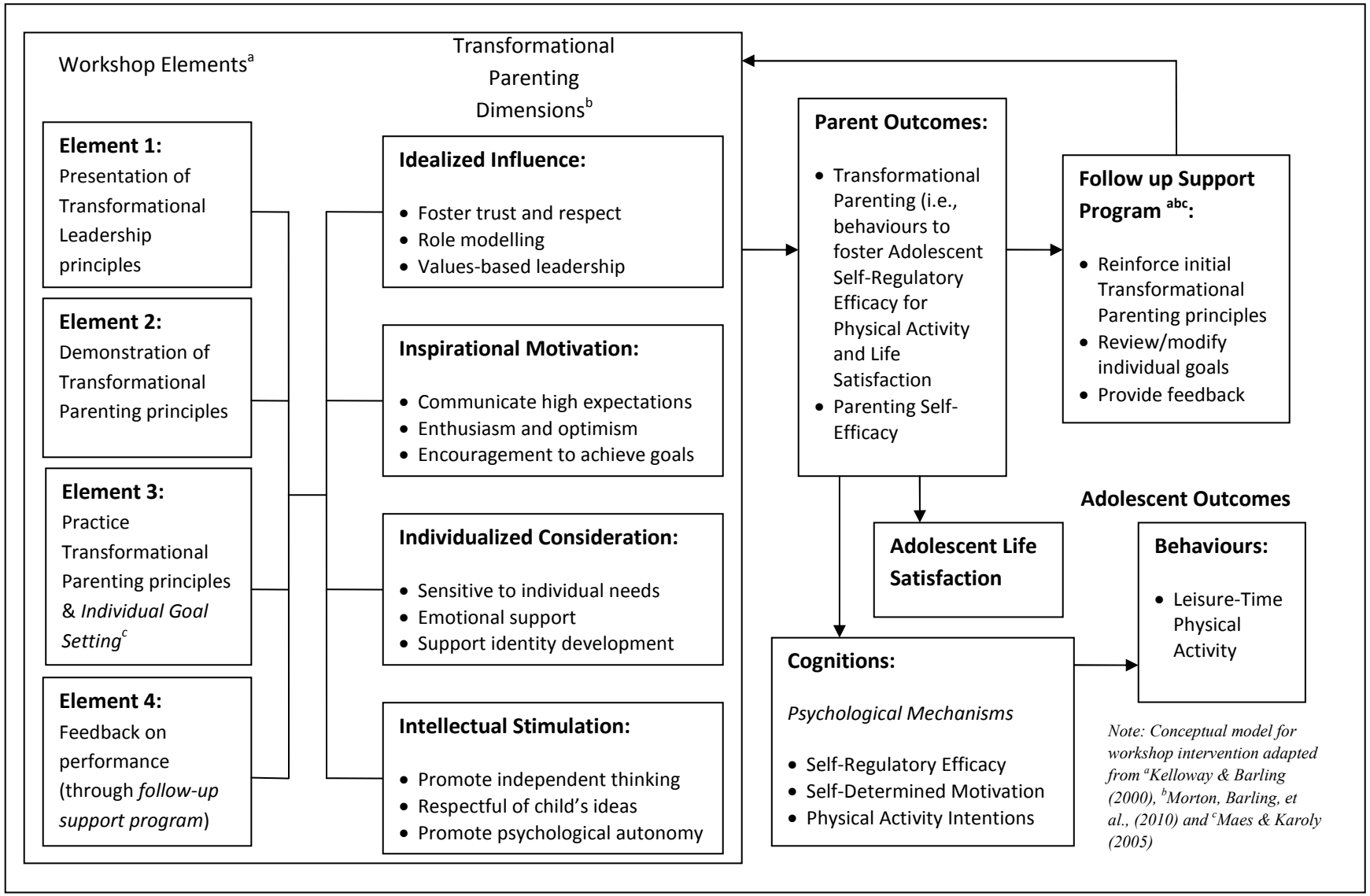
Figure 4.2. Flow of participants through the intervention



Consistent with other parenting interventions (e.g., Sanders, 1999), the transformational parenting intervention outlined within this study was guided by a self-regulatory framework, which focused on enhancing parents' self-regulation capabilities. Maes and Karoly (2005) conducted a review of the extant literature on self-regulation and identified several guiding principles for effective self-regulation interventions. When applied to the intervention used in the

present study, these correspond to (a) encouraging the parent to specify four transformational parenting behaviours (one from each dimension) that they would like to develop, and to set challenging, yet achievable goals (related to the utilization of these behaviours in day-to-day parenting) that are attainable in a restricted time frame (cf. Locke & Latham, 1990), (b) helping the parent to build an "action plan" by asking them to outline *how* they will achieve their goals, and to develop implementation strategies to convert these transformational parenting goals into productive actions (i.e., what they can do differently in their every-day parenting to implement these transformational parenting behaviours), and (c), other maintenance strategies to sustain changes in their parenting behaviours (i.e., how to manage conflict in the parent-child relationship through the use of transformational parenting strategies). In sum, by grounding the intervention in both transformational leadership (cf. Bass & Riggio, 2006) and self-regulatory (cf. Maes & Karoly, 2005) theory, the intervention sought to (a) train parents of inactive youth in their understanding and capacity to use principles of transformational leadership, and (b) self-regulate their use of transformational leadership principles once the initial workshop was over.

Figure 4.3. Overview of the transformational parenting (TP) intervention and theorized links to parent and adolescent outcome



Follow up Support Program

In light of findings from a process evaluation conducted within a recent transformational leadership intervention study with physical education teachers (Beauchamp et al., 2011), it was suggested that participants in the workshop require greater support after the workshop has ended to enable individuals to specify a series of goals through which to implement the target transformational behaviours. This fits with the proposed theoretical framework underpinning the present study (cf. Kelloway & Barling, 2000; Maes & Karoly, 2005), as an important aspect of developing self-regulation of transformational parenting behaviours is to set achievable goals over the course of the intervention and to receive feedback on progress.

With this in mind, parents in the intervention condition were provided with a 'follow up support program' once the workshop had ended. Specifically, during the workshop the parents were instructed to utilize the handbook provided for them (see appendix C3) and make a list of potential barriers to implementing each of the four transformational parenting behaviours, both in relation to parenting in general and also in relation to physical activity promotion. In addition, at the end of the workshop, parents were instructed to set (and write down in their handbook) a series of goals that related to utilizing the transformational parenting behaviours discussed in the workshop. Parents were encouraged to discuss their barriers and goals with the other parents and the workshop facilitator (Mark Beauchamp), and a brief presentation was provided in the workshop whereby the importance of setting S.M.A.R.T. (specific, measurable, action-oriented, realistic, and time-based) goals was emphasized to help make this process clear to the parents. During the 6 weeks following the workshop, parents were contacted once every two weeks (by email) by the project coordinator (Katie Morton). This was a mechanism to provide parents with greater support after the workshop had ended. As part of this process, parents were provided with

a template for their email contact (see transformational parent handbook (appendix C3), p. 24). Specifically the template asked parents (a) "What did you try over the last 2 weeks (relating to your original goals set in the workshop)?", (b) "What were some barriers/challenges you faced in terms of achieving your transformational parenting goals?", (c) "What do you feel worked well? What do you think needs improvement?", and (d) "Is there anything you would like help (from us) with?" Feedback was provided to parents with regards to what transformational parenting behaviours they were utilizing, the principles of transformational parenting discussed in the workshop, and new ideas/strategies were offered. In addition, useful physical activity resources for the parents' local area were provided as part of the feedback.

Measures

Transformational Parenting. Adolescents' and parents' perceptions of parents' behaviours were assessed using the Transformational Parenting Questionnaire (TPQ; Morton et al., in press). The 16-item TPQ contains separate subscales designed to measure the four dimensions of transformational parenting, with four items per subscale. Items on the TPQ are prefixed with the stem "My parent/guardian…" with exemplar items including "acts as a person that I look up to" (idealized influence), "Is optimistic about what I can accomplish" (inspirational motivation), "Gets me to think for myself" (intellectual stimulation), and "Displays a genuine interest in my life" (individualized consideration). Responses are anchored on a six-point rating scale from 0 (strongly disagree) to 5 (strongly agree). In the present study, the higher-order measure of transformational parenting was used[4], and demonstrated sound reliability at the two assessment time points (Cronbach α Time 1 = .87, Time 2 = .95).

[4] Although a second-order latent variable model was found to be the most appropriate (see chapter 3), the present pilot study utilized a small sample size, therefore was underpowered to be able to operationalize transformational parenting as a second order (latent) construct within the analyses. Therefore an observed score, based on a higher-order measure of transformational parenting, was used by summing the scores for each item in the TPQ.

Parenting Self-Efficacy. General parenting self-efficacy was assessed using a nine-item instrument developed and used in a study by Gil-Rivas, Holman, and Silver (2004). Parents' confidence in their ability to carry out general parenting tasks ("I feel sure of myself as a parent of a teen") was assessed using a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). A mean score is computed, which has demonstrated adequate reliability in previous studies (Cronbach α = .87; Gil-Rivas et al., 2004). In the present study, this measure demonstrated acceptable reliability at both time points (Cronbach α Time 1 = .90, Time 2 = .92)

In addition, three modified items from the Parenting Self-Efficacy scale (Bandura, 2006) were used. This measure is designed to assess parents' self-efficacy beliefs *to influence the physical activity behaviours of their child*. These items were measured on a standard 0 (not confident at all) to 100 (completely confident) self-efficacy scale (Bandura, 2006). Scores from these items demonstrated suboptimal reliability at the Time 1 assessment (Cronbach α Time 1 = .64) but acceptable reliability at Time 2 assessment (Cronbach α Time 2 = .81)

Self- regulatory efficacy for physical activity. Adolescents' beliefs in their abilities to manage various self-regulatory aspects of their physical activity participation over the upcoming three weeks (e.g., scheduling physical activity sessions and monitoring progress) were assessed using a ten-item instrument originally developed by Shields and Brawley (2006, 2007). Responses to items were anchored on a 0 percent (not at all confident) to 100 percent (completely confident) scale. An exemplar item is "How confident are you that you can motivate yourself to get at least 30 minutes of activity a day, 3 times per week over the *next 3 weeks*?". The self-regulatory efficacy for physical activity measure demonstrated satisfactory reliability in the present study (Cronbach α Time 1 = .88, Time 2 = .91).

Self-Determined Motivation. Adolescents' motivation to take part in physical activity was measured using the Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2; Markland & Tobin, 2004). The BREQ-2 contains 19 items and assesses amotivation, extrinsic, introjected, identified and intrinsic motivation, and is scored on a 5 point scale ranging from 0 (not true for me) to 4 (very true for me). The measures derived from the BREQ-2 have been found to demonstrate acceptable reliability ($\alpha > .75$) in a number of studies, including those with adolescent populations (Gillison, Standage, & Skevington, 2006; Markland & Ingledew, 2007). In the present study, all the regulation subscale measures demonstrated acceptable internal consistency values at both assessment points ($\alpha > .71$).The BREQ-2 was operationalized by computing an overall score of self-determined motivation, called a Relative Autonomy Index (RAI: Ryan & Connell, 1989). The RAI is calculated using the following formula: (amotivation × -3) + (external regulation × -2) + (introjected regulation × -1) + (identified regulation × 2) + (intrinsic regulation × 3). Higher scores represent more self-determined motivation.

Physical Activity Intentions. Adolescents' intentions to participate in physical activity during their leisure time during the ensuing month were assessed using a 3-item instrument developed by Chatzisarantis, Biddle, and Meek (1997). Responses to each of the items were recorded on a 7-point scale, with anchors ranging from 1 (very unlikely) to 7 (very likely). An exemplar item includes "I am determined to exercise/play sport at least 3 times a week during the next month". In the present study, the measure of physical activity intentions was found to demonstrate acceptable internal consistency at both assessment points (Cronbach α Time 1 = .76, Time 2 = .96).

Leisure Time Physical Activity. Leisure-time physical activity was measured using the Godin Leisure-time Exercise Questionnaire (LTEQ: Godin & Shephard, 1985). This instrument

requires participants to report the number of times they participate in strenuous, moderate and light exercise during a typical week. A total score was calculated by multiplying the weekly frequencies of strenuous, moderate, and light activities by 9, 5, and 3, respectively, for a total metabolic-equivalent intensity value. Test–retest reliability of the LTEQ has been established with adolescents (Sallis, Buono, Roby, Micale, & Nelson, 1993). In addition, measures derived from this instrument have been shown to have acceptable criterion-related validity (r = .36) with accelerometry measures (Godin & Shephard, 1985; Sallis & Saelens, 2000).

Objective measures of physical activity. To collect objective information about adolescent leisure-time physical activity patterns, all adolescents involved in the study wore an accelerometer. The ActiGraph GT1M accelerometer (ActiGraph^{TM}, LLC, Fort Walton Beach, FL, USA) is an electronic dual-axis motion sensor that responds to vertical and horizontal acceleration in activity and limb movement. This accelerometer (previously known as MTI and CSA) has been identified as appropriate for physical activity research on children and adolescents in a number of studies (Freedson, Pober, & Janz, 2005; Trost, McIver, & Pate, 2005). Adolescents were instructed to wear the accelerometer over their right hip for five consecutive days (three week days and both days of the weekend). Participants were instructed to wear the monitor throughout the day, even while sleeping, but to remove it for bathing, showering and water-based activities. Activity "counts" are summed over a specified time interval of time called an "epoch". The GT1M was initialized to record in 30 second epochs in order to capture the more intermittent nature of adolescent physical activity (cf. Saksvig et al., 2007; Treuth et al., 2007) and these data were subsequently downloaded to a computer. An age-specific prediction equation was then provided to convert activity counts into Metabolic equivalents (MET's) for each adolescent (Freedson et al., 1997). MVPA was specified to be an activity level of > 3 METs. The

duration of time (in minutes) spent in leisure time (defined as 3pm-6pm on weekdays and 7am-10pm on weekend days) MVPA was computed only for adolescents who wore the accelerometer for a minimum of three days (cf. Mattocks et al., 2008), specifically at least two weekdays and at least one weekend day. In addition, 'non-wear' time was defined as 30 minutes or more of consecutive zero counts on the accelerometer. The process by which these missing data points are identified has not been standardized in the literature, and there exists considerable disagreement on the best procedures for dealing with 'non-wear' data (Sirard & Slater, 2009). In the present study, for weekdays, we allowed 1 hour of non-wear time during the leisure period (3pm-6pm). For weekends, adolescents needed to have 8 valid hours of wearing time (determined by adding activity in all other categories, i.e., sedentary, light and MVPA). The percent of wear-time spent in leisure time MVPA was calculated for each adolescent by summing the total weekend and weekday MVPA minutes and dividing this value by the total number of wearing time minutes (sedentary + light + MVPA). This value was used in the subsequent analyses and represented the "percent of valid accelerometer wear-time spent in MVPA during leisure time".

Life Satisfaction. Adolescent satisfaction with life was measured using the satisfaction with life scale adapted for children (SWLS-C; Gadermann et al., 2010). The SWLS-C consists of five items, in which participants are asked to respond using a 5-point Likert scale, anchored by 1 (Disagree a lot) and 5 (Agree a lot). An exemplar item includes "In most ways my life is close to the way I would want it to be". The life satisfaction measure used in this study demonstrated acceptable reliability in the present study (Cronbach α Time 1 = .81, Time 2 = .89).

Manipulation check. To determine whether parents' knowledge of transformational leadership in the intervention condition was improved relative to those in the control condition, a manipulation check was provided to parents in both the intervention (following the end of the 6

week follow up support program) and control condition (at the Time 2 assessment). This was done by administering a questionnaire developed for the present study (see appendix C4), which included four case studies of transformational parenting, with each case study exhibiting a set of behaviours associated with one aspect of transformational leadership. Parents were asked to identify (through a multiple choice response format) which of the four behavioural dimensions of transformational leadership the parent in each case study displayed. This approach has been used in previous field-based experimental research (Beauchamp et al., 2011; Sivanathan, Turner, & Barling, 2011).

Process Evaluation

The notion of utilizing qualitative methods in the evaluation of health research is gaining acceptance (Oakley et al., 2006). Within the present study, the purpose of the process evaluation component was to understand, from the perspective of the parents, what aspects of the intervention they perceived as beneficial and also to understand what features of the intervention they perceived as problematic or needing improvement. Specifically, in an open-ended survey (see appendix C5), parents were asked to (a) recall the contents of the workshop that they took part in, (b) describe the positive aspects/strengths of the workshop, (c) describe the ways in which the workshop could be improved, (d) discuss how useful the workshop was to them and finally (e) describe whether they changed anything in relation to parenting their teen as a result of this intervention (workshop and follow up program).

All parents involved in the intervention condition were invited to complete an open ended survey shortly after the Time 2 data collection. Out of the 11 parents who completed the workshop and follow-up support, 8 parents returned the survey. The data were analyzed inductively using a constant comparative method (Strauss & Corbin, 1998), whereby words and

sentences within the responses were compared and regrouped into conceptually meaningful themes (Tesch, 1990).

Results

Manipulation Check

An initial examination of Levene's Test for Equality of Variances revealed no significant differences between the control and experimental groups ($F = .85$, $p > .10$). The subsequent independent samples (equal variances assumed) t-test revealed that parents in the intervention condition ($M = 68\%$, $SD = 28$) were significantly more knowledgeable about transformational parenting than those in the control condition ($M = 36\%$, $SD = 36$), $t\ (18) = 2.27$, $p < .05$.

Outcome Evaluation

In terms of the study's main analyses, it has been suggested that analysis of covariance should be the method of choice for analyzing data derived from randomized trials, by controlling for baseline measures as covariates (Vickers, 2005). As a result, a series of ANCOVA's were conducted with pretest scores for each dependent measure entered as a covariate, and with posttest measures of the same variable entered as the dependent measure[5]. It should also be noted, however, that when data are non-normally distributed, non-parametric statistics are often preferred (cf. Vickers, 2005). With this in mind, for skewed variables, analyses were repeated using a non-parametric test of group differences. As there is no non-parametric equivalent of ANCOVA, Mann-Whitney tests were used to compare the intervention and control groups on change scores, from baseline to post-test (Vickers, 2005). Descriptive statistics, including

[5] A MANCOVA was also computed with the outcome variables entered as dependant variables and the pre-test measures entered as covariates. This revealed no significant differences between conditions ($p = .86$). However, in light of the small sample size (i.e., this study was underpowered to appropriately conduct a MANCOVA) and the fact that the dependent variables are conceptually independent (cf. Huberty & Morris, 1989) a series of ANCOVA's were performed as the main analyses for this study.

unadjusted means, standard deviations, and intercorrelations between the study variables at both time points are presented in Table 4.1.

Adolescent Perceptions of Transformational Parenting. The results of the ANCOVA revealed no significant differences between the intervention and control condition on adolescent perceptions of transformational parenting following the workshop and follow-up support program (F (1, 19) = .38, p = .69, η^2 = .04) after controlling for baseline measures of transformational parenting scores. As the data were non-normally distributed, analyses were repeated using non-parametric statistics on change scores for adolescent perceptions of transformational parenting; however the results of the Mann-Whitney test also revealed the same pattern of results.

Parent Efficacy. Results revealed no significant differences between the intervention and control condition on perceptions of general parenting efficacy at Time 2 after controlling for baseline measures of general parenting efficacy, F (1, 19) = 1.28, p = .30, η^2 = .13. Similarly, no significant differences between the intervention and control condition were found for parenting efficacy to promote adolescent physical activity at Time 2 (F (1, 19) = .74, p = .49, η^2 = .08) after controlling for baseline measures of efficacy to promote physical activity.

Adolescent Outcomes

Self-Regulatory Efficacy. The results of the ANCOVA revealed that after controlling for baseline measures of adolescent self-regulatory efficacy for physical activity, there were no significant differences between the intervention and control groups at Time 2 (F (1, 19) = 1.87, p = .19, η^2 = .10).

Self-Determined Motivation. The results of the ANCOVA revealed that after controlling for baseline measures of adolescent self-determined motivation for physical activity, there were

no significant differences between the intervention and control groups at Time 2 (F (1, 19) = 1.63, p = .22, η^2 = .09).

Physical Activity Intentions. The results of the ANCOVA revealed that after controlling for baseline measures of adolescent physical activity intentions, there were no significant differences between the intervention and control groups at Time 2 (F (1, 19) = 0.04, p = .85, η^2 = .00). This variable was non-normally distributed; however the results of the non-parametric Mann-Whitney test on change scores from baseline to post-test revealed the same pattern of results as the ANCOVA.

Leisure-Time Physical Activity (Self-Reports). After controlling for baseline measures of adolescent leisure time physical activity, the results of the ANCOVA revealed no significant differences between the intervention and control groups at Time 2 (F (1, 19) = 0.06, p = .81, η^2 = .00). This variable was non-normally distributed; however the results of the non-parametric Mann-Whitney test on change scores from baseline to post-test revealed the same pattern of results as the ANCOVA.

Leisure-Time Physical Activity (Accelerometers). After controlling for baseline measures of adolescent leisure time physical activity (percent of valid wear-time spent in MVPA per day during leisure time), the results of the ANCOVA revealed no significant differences between the intervention and control groups at Time 2 (F (1, 7) = 0.01, p = .97, η^2 = .00). As the sample size was very small due to participant exclusion based on non-wear time (i.e., only 3 participants from the intervention condition were 'valid' at both time 1 and time 2) a further examination (t-test) of just the intervention group was conducted. However, this also revealed no significant changes in physical activity from Time 1 to Time 2 (p >.1)

Life Satisfaction. The results of the ANCOVA revealed that after controlling for baseline measures of adolescent lie satisfaction, there were no significant differences between the intervention and control groups at Time 2 (F (1, 19) = 0.73, p = .41, η2 = .04).

Table 4.1. Unadjusted means, standard deviations, and intercorrelations among the study variables for the intervention and control groups

	Intervention M (SD)	Control M (SD)	1[a]	1	2	3	4	5	6	7	8	9	10[a]	10	11	12	13	14	15	16	17	18
Baseline (Time 1)																						
1a.Trans Parenting(P)	69.00 (7.54)	68.20 (9.64)	--																			
1. Trans Parenting(A)	64.12 (8.07)	60.60 (10.01)	.39	--																		
2. Parent Efficacy	3.38 (.75)	3.80 (0.82)	.60*	.12	--																	
3. Parent Efficacy PA	51.11 (23.91)	48.17 (21.32)	.41	.24	.03	--																
4. Self-Reg Efficacy	71.30 (16.28)	63.85 (13.63)	.06	.34	-.10	.15	--															
5. SD Motivation	6.05 (5.72)	4.28 (6.35)	-.17	-.11	-.34	.30	.44*	--														
6. PA Intentions	5.00 (1.46)	4.77 (1.11)	.29	.14	-.02	.39	.76*	.54*	--													
7. Self-Report LTPA	39.42 (24.69)	29.05 (21.31)	.11	.43*	.01	.14	.73*	.52*	.57*	--												
8. Objective MVPA	8.01 (4.93)	8.35 (3.67)	.08	.31	.16	-.16	.51*	.14	.28	.49	--											
9. Life Satisfaction	3.60 (0.68)	3.28 (1.06)	.12	.56*	.20	.18	.11	-.32	-.11	.23	.07	--										
Post-test (Time 2)																						
10a.Trans Parenting(P)	69.55 (8.34)	65.89 (7.66)	.73*	.59*	.51*	.24	.08	-.28	.18	.29	.03	.41	--									
10. Trans Parenting(A)	58.36 (12.09)	55.89 (17.91)	.61*	.71*	.54*	.24	.31	-.11	.24	.43	.26	.52*	.63*	--								
11. Parent Efficacy	3.57 (0.75)	3.63 (0.79)	.59*	.47*	.78*	.19	-.05	-.40	.03	.02	.05	.52*	.78*	.53*	--							
12. Parent Efficacy PA	50.91 (25.73)	46.30 (20.78)	.43	.34	.17	.88*	.34	.52*	.52*	.42	.18	.25	.29	.26*	.24	--						
13. Self-Reg Efficacy	65.20 (22.52)	63.94 (20.03)	.07	.14	.02	.41	.75*	.45*	.73*	.58*	-.02	.31	.11	.28	.11	.49*	--					
14. SD Motivation	5.13 (6.43)	4.10 (6.17)	-.07	.07	-.31	.48*	.46*	.81*	.48*	.60*	.20	-.11	-.25	.14	-.40	.45*	.53*	--				
15. PA Intentions	4.48 (2.00)	3.96 (1.77)	.07	.13	-.05	.36	.75*	.45*	.78*	.58*	.20	.07	.06	.15	-.06	.46*	.84*	.52*	--			
16. Self-Report LTPA	48.36 (25.80)	38.56 (26.44)	.22	.42	.05	.26	.80*	.31	.76*	.74*	.10	.32	.38	.34	.18	.40	.74*	.29	.77*	--		
17. Objective MVPA	9.52 (4.31)	6.97 (3.35)	.10	.29	-.28	-.25	.46	.48	.31	.56	.62	-.25	.25	.36	-.05	.02	.20	.22	.19	.29	--	
18. Life Satisfaction	3.62 (0.84)	3.27 (1.10)	.22	.54*	.22	.14	.19	-.09	.02	.25	-.08	.77*	.31	.74*	.37	.12	.19	.10	-.05	.10	-.12	--

Process Evaluation

Intervention Relevance and Utility. Six of the eight parents that returned the open ended survey, commented on the relevance and usefulness of the intervention for parents and the promotion of physical activity with adolescents. Specifically, four parents discussed the *new perspective* that the workshop offered on parenting. For example, one parent highlighted "I never thought about my role as a leader and how I can affect my teen by how we interact on an everyday basis". Similarly, another parent commented "I'd never considered the possibility that my child needed to be intellectually challenged when it came to getting her active but that has been a major component of why she is not active and that is something that needs to change". Another parent discussed how "something as simple as listening and communicating effectively can have an influence on her activity levels this is something we need to work on". Finally, another parent highlighted how the intervention gave her something new to think about as "the workshop focused on positive and good things to work on where usually I focus on what my teen is doing wrong and trying to change it". These examples highlight the relevance of the intervention to parenting and adolescent physical activity.

In terms of utility of the intervention, one parent reported that a positive aspect of the workshop component was that it was "short and sweet", and another enjoyed the fact it was "light-hearted and positive". Two parents reported enjoying the "humour" that was incorporated into the workshop. Three parents commented on the *goal-setting* aspect of the workshop and that it gave them "a couple of parenting skills to work on" and as a result, this component was "manageable and not overwhelming". Three parents highlighted that the follow-up support component was a positive aspect of the intervention; however, these parents also had suggestions for improvements with regards to this component (see *follow-up support* section).

Beyond commenting on the relevance and utility of the transformational parenting intervention, parents did offer suggestions to enhance future interventions. These comments may help provide insight into why the intervention did not produce significant changes in any of the outcome variables over the six-week time period following the workshop. Five parents reported that although they thought the workshop helped raise awareness of the transformational leadership behaviours discussed in the workshop, and that the information they received was important for parents (see section above), a major theme emerging from the process evaluation data related to "putting the behaviours into practice" and sustaining the behaviours discussed in the workshop over time. This theme can be broken down into three broad categories relating to how the intervention could be improved*, feedback to parents*, *follow-up support* and *goal setting and self-regulation*.

Feedback to Parents. As part of the follow-up support program, parents were contacted every two weeks via email to discuss how they were progressing in terms of achieving the goals they set during the workshop. The research coordinator (Katie Morton) subsequently provided feedback. This included encouragement and also suggestions for alternative behavioural strategies to focus on over the next two weeks. Four parents discussed that they found the email contact helpful as it reminded them to "keep up with the goals [they] set in the workshop". However, the same four parents discussed that they would like more informative feedback relating to their goals and how they were progressing. For example, one parent reported that "more objective feedback from the instructors or even from my child would have been useful to see if we were on the same page". Similarly, another parent discussed that "feedback and ideas from other parents in the workshop would have been useful, to see what other parents were doing". Another parent discussed that although he (the parent) thought that he was implementing

transformational parenting behaviours, he was "not sure whether my teen thought I was doing anything differently". One aspect of the feedback that needed improvement was that it needed to be "more practical". For example, one parent commented that they would like "more concrete examples of strategies to try with my child".

Follow-up Support. In addition to the provision of more specific feedback as part of the follow up support program, parents also highlighted the need for greater social support from other sources following the workshop. For example, one parent commented that it "would have been good to have more contact with parents from the group after the workshop as we could swap stories and help each other". Similarly, another parent reported that "it would help to have your spouse or partner in the workshop and the program so that we would be working [on] things together". Another aspect of *follow-up support* relates to the issue of how long the intervention (especially the follow-up support component) should be. This pilot study lasted six-weeks and five parents commented on how this time frame may be too short. For example, one parent highlighted that "it may take longer and more sessions to actually change anything". Another parent discussed that her relationship with her child needed more "conflict resolution before [she could] start trying out other strategies to help increase [her daughter's] physical activity".

Goal Setting and Self-Regulation. The final theme relating to improvements for future interventions corresponds to the *goal-setting and self-regulation* components. Although parents were asked to record up to four goals during the workshop (using the handbook), two parents discussed that these goals were "too broad" and another parent suggested that they "need more examples of specific goals" and they "found it hard to know exact strategies to use". In addition to problems surrounding the setting of SMART transformational parenting goals, three parents also highlighted the difficulty of sustaining transformational parenting strategies or "keeping

behaviours up" over the six-weeks following the workshop. For example, the email contact with parents highlighted a potential issue with parent's ability to *monitor* their goals. For example, four parents involved in the workshop appeared to struggle to set and track goals that related to their *own* behaviour and instead focused heavily on outcomes or goals that related to their child's behaviour (e.g., "getting my child to go for a walk three times a week"). This indicates a need for improved strategies to help parents effectively monitor the goals they set and to focus on *behavioural* goals (relating specifically to aspects of transformational leadership) rather than the outcomes they want to achieve for their child (i.e., a stronger focus on the process).

Finally, two parents discussed that they felt like "nothing had really changed" as a result of the intervention and another highlighted that she felt "nothing [she tried] seemed to make a difference". Parents often provided external reasons for the perceived lack of success in sustaining transformational parenting strategies; for example, one parent commented that her daughter had faced "bullying at school recently" which affected the parent's implementation of the goals that were set. The suggestions for improvements for the intervention highlighted within the process evaluation are discussed in greater depth in the discussion section of this chapter. Specifically, research from the parenting and transformational leadership domains is discussed alongside the suggestions highlighted in the process evaluation to offer future directions and improvements for subsequent transformational parenting intervention studies.

Discussion

The overall purpose of this study was to test a parenting intervention guided by the tenets of transformational leadership theory with a goal of fostering adolescent health enhancing cognitions and behaviours relating to physical activity and life satisfaction. It is widely accepted that the quality of parenting that children receive has a major effect on their development

(Sanders, 2008). Furthermore, the *prevention* of lifestyle diseases through healthy living (i.e., regular physical activity) represents the most sustainable way to support health and positive social development (WHO, 2003). Given previous research that demonstrated the positive associations between transformational parenting and key indicators of adolescent health and well-being (Morton et al., in press), and research demonstrating that transformational leadership can be enhanced through intervention (cf. Avolio et al., 2009), a logical next step was to test the predictive utility of the transformational parenting construct.

Taken together, the results of the outcome assessment procedures used in this study indicated that the intervention was not successful in improving adolescent perceptions of transformational parenting behaviours, parenting efficacy, adolescent physical activity related cognitions and behaviours or life satisfaction. On the one hand, it is entirely conceivable that interventions guided by transformational leadership theory may not be effective in changing parenting behaviors (and thus indirectly influence adolescent health outcomes). On the other hand, it is important to note that this was a pilot study and much can be gained from a reflection of the study protocol and the process evaluation findings. Specifically, several limitations of the intervention are discussed below, and following this, suggestions and recommendations for future interventions are subsequently presented.

Limitations and Future Directions

Perhaps the most significant limitation of the present feasibility study was the small sample size. Although we initially aimed to recruit a minimum of 60 parent-child dyads (30 in each condition) we were only able to recruit 22 parent-child dyads at baseline. This is a common problem in the parenting domain (cf. Sanders, 2008) and reflects parents' willingness to participate in parenting programs in general. Research has shown that this is related to a number

of factors including the nature of the program offered and how it is delivered, how much time they would need to spend participating and whether it meets their needs (Morawska & Sanders, 2006). With this in mind, future transformational parenting interventions need to consider alternative recruitment strategies other than adverts in newspapers. For example, Sanders (2008) suggested that efforts are needed to normalize and destigmatize participation in such parenting programs prior to recruitment taking place.

Another limitation concerning the sample reflects parent's *readiness to change* (or motivation to change) their parenting behaviours. This was not directly assessed in the present study, however it was clear from process evaluation component of the study that some parents engaged in the program more so than others (i.e., had greater contact with the research co-ordinator, participated more openly in the workshop etc.). It is plausible to suggest that parents who were motivated to make use of the behaviours covered within the intervention would be more likely to derive changes in their own behaviour than those parents who were less engaged (or ready to change). Future intervention studies should include a formal measure of intervention implementation/ engagement in the program (Carroll et al., 2007) to be able to ascertain the extent to which parents actively utilized transformational behaviours in their daily interactions with their teens. For example, if parents are not engaged in the intervention or implement the behaviours discussed and taught within the workshop, it is unlikely that any changes in parenting behaviours will be demonstrated (Carroll et al., 2007).

Learning transformational parenting competencies requires the capacity to modify or change existing patterns of behaviour, and to self-regulate these behaviours. Indeed, an integral component in developing leadership is to enhance the individual's readiness to change (Avolio & Wernsing, 2008). Avolio suggests that an understanding of where the individual is in terms of

readiness to change is a key aspect of preparing individuals to "engage at a level that will move the individual toward more effective leadership" (Avolio, 2010, p. 735). Recent leadership development research (Bernal, 2009) has adopted a trans-theoretical model (TTM) of change (cf. Prochaska & Diclemente, 1982) to advocate stage-matched interventions for leadership development. With this in mind, future intervention studies may wish to tailor transformational parenting interventions to parents' specific stage of 'readiness to change'. It is anticipated that this may enhance the effectiveness of the intervention. For example, the purpose and content of an intervention designed for parents in a pre-contemplation phase (i.e., unaware a problem exists) would be very different than for parents who are in a 'preparation' phase (i.e., intending to change their behaviour in the immediate future). An awareness of parent's stage of change is something to consider in terms of recruitment into the parenting program and also in terms of tailoring the follow-up support program to the individual's stage of change.

Another limitation of the pilot study was the relatively short follow-up period (i.e., six weeks). Although studies in the child and adolescent health domain (e.g., Goldfield, Mallory, Prud'homme, & Adamo, 2008; Rhodes, Naylor, & McKay, 2010) have demonstrated that improvements in a range of cognitive and behavioural outcomes can be achieved after a short follow-up (i.e., 4 to 8 weeks), other studies (especially in the leadership domain) have indicated that a longer follow up (e.g., a minimum of three to four months) is needed to see changes in leader behaviours (Kelloway & Barling, 2000). Therefore, one important direction for future research would be to test the efficacy of an intervention guided by transformational leadership theory over a longer period of time than was used in this study. It also seems plausible to suggest that more than one workshop might be needed over the course of the program. For example, a recent study focusing on positive parenting practices demonstrated that parental attendance at

three seminars brought about greater improvements in child outcomes, when compared to parents attending one seminar only (Sanders, Prior, & Ralph, 2009).

A final limitation included a lack of objective physical activity data, especially at Time 2. A lack of follow up data is common in physical activity intervention studies, especially with youth (Salmon, Booth, Phongsavan, Murphy, & Timperio, 2007), and reflects issues of compliance (Van Coevering et al., 2005). Due to the lack of valid wear time with a number of adolescents involved in the study, we could only use 3 days of valid data, whereas research suggests that four to seven days of monitoring is needed to provide reliable data with youth (Trost, Pate, Freedson, Sallis, & Taylor, 2000). This provides further support for the importance of conducting a pilot intervention study, as this highlights that future transformational parenting interventions may need to provide greater incentives for the adolescents involved in the study to wear the accelerometers for at least five days. We employed a number of strategies to enhance compliance amongst the adolescents such as making a personal connection (i.e., families were visited in their homes and we demonstrated how to wear the device), asking adolescents to complete an activity log (as a self-monitoring tool) and we also provided a list of 'frequently asked questions' (and answers) to remind participants how to correctly wear their accelerometers (cf. Trost et al., 2005). However, this was clearly not enough to warrant compliance amongst inactive teens. Therefore, additional (monetary) incentives might be warranted based on the number of valid days they have accumulated (i.e., 'more days wearing, more money in your pocket') and we may need to consider creative ways to remind teens to wear the accelerometer every day, such as through sending daily text messages.

In terms of future directions for parenting interventions grounded in transformational leadership theory, the process evaluation data indicated that the majority of parents in the

intervention condition were positive about the workshop and found it enjoyable, relevant and useful. However, an issue that was highlighted is that a half-day workshop and 6 week follow- up support program may not be enough (both in terms of *contact* with parents and *length* of program) to see observable changes in parenting behaviours (and ultimately adolescent outcomes). Rather, the intervention served only to *raise awareness* to transformational parenting behaviours. From an analysis of the process evaluation data, there are several issues that should be considered with regard to why the intervention was not successful in deriving improvements the study's outcome measures. Specifically, in the sections below we turn to the leadership and parenting research in order to support any changes to improve future transformational parenting interventions.

Although there is a significant lack of parenting programs focused exclusively on adolescent health-enhancing cognitions, behaviours and/or life satisfaction, there are examples of more general parenting programs (especially programs targeting parents of children with behavioural and/or emotional problems) that have incorporated self-regulatory components similar to the strategies utilized in the present study, but with greater success. For example, the Triple P-Positive Parenting Program (Sanders, 1999; Sanders, Markie-Dadds, & Turner, 2003) is a program designed to improve the quality of parenting advice available for parents. A central goal of the Triple P is the development of parents' self-regulatory capabilities. Similarly, the parenting intervention in the present study was guided by a self-regulatory framework, which was operationalized by including *goal setting* as a key strategy to enhance parents' regulation of transformational parenting behaviours. In spite of the use of goal setting, the results of the process evaluation findings suggest that improvements need to be made within any subsequent interventions. Goals enhance self-regulation through their effects on motivation, self-efficacy and

self-evaluations of progress (Bandura, 1997). One issue that emerged corresponded to the *specificity* of goals being set in order to bring about changes in parents' behaviours. Parents in this study reported finding the goal setting component difficult in terms of setting *behavioural* (process) goals. Research in the transformational leadership domain has suggested that context-specific transformational leadership behaviours may be more advantageous than general transformational leadership in bringing about enhanced follower outcomes (Mullen & Kelloway, 2009). In addition, parents may need to be provided with greater instruction and help (on an ongoing basis) on how to set long term and short-term (process-oriented) goals. This also relates to goal *proximity*, whereby proximal, short-term goals are achieved more quickly, and therefore result in higher motivation and greater self-regulation than more temporally distant, long-term goals (Bandura, 1997; Locke & Latham, 1990). With this in mind, future parenting interventions should seek to focus on one long-term goal that is accompanied by a small number of *highly specific* behavioural process goals that relate to the implementation of transformational parenting strategies.

Closely tied to self-regulation enhancement is the notion of *social support*. This was highlighted in the process evaluation data, as parents discussed that further contact with other parents from the workshop would be useful (to help them self-regulate). Similarly, parents discussed that having their partner or spouse in the intervention would be helpful, as this would allow both parents to be 'on the same page' throughout the intervention. Studies have shown that targeting the *teamwork* aspect of parental relationships can enhance outcomes for the child (cf. Scott & Dadds, 2009). Therefore any attempts to have significant others (i.e., the other parent) on the same page represents an important consideration for future parenting interventions.

Conclusions

An important first step in developing any intervention is to conduct a pilot or feasibility trial. As stated by Mason and Zuercher (1995), pilot studies can be "time-consuming, frustrating, and fraught with unanticipated problems, but it is better to deal with them before investing a great deal of time, money, and effort in the full study" (Mason & Zuercher, 1995). Although the results of the pilot trial were disappointing, research suggests that developing and testing a feasibility intervention is time well spent. For example, this study allowed us to assess whether the research protocol was realistic and workable, and if the recruitment procedures were effective. More importantly, through conducting a pilot study, researchers can identify logistical problems that might occur using the proposed methods in a larger trial. For example, we now have to re-consider the recruitment strategy that we utilized in this study and also consider conducting the intervention over an extended time frame with more one-to-one contact with parents, plus a greater emphasis on providing parents with greater social support throughout the intervention. These lessons would not have been learned without a pilot study (incorporating a process evaluation component). As a final thought, it is perhaps important to remember that the purpose of a pilot is not only to test the effectiveness (whether it will work or not) of the intervention, but also to test whether the intervention is feasible (Jairath et al., 2000). With this in mind, it is important to continually refine and modify future parenting interventions guided by transformational leadership theory through on-going feasibility trials and process evaluations with participants. Given previous findings from intervention studies in organizational and educational contexts, continued efforts appear warranted in the parenting and adolescent health domain to bring about optimal adolescent functioning through cost-effective parenting programs guided by transformational leadership theory.

Chapter 5: General Discussion

Transformational leadership theory has grown to become the most widely studied model of leadership over the past two decades (Barling et al., 2010), with research supporting the application of this leadership framework across a number of diverse contexts (Bass, 1998). Transformational leadership is concerned with developing followers to their fullest potential (Bass & Avolio, 1990), through maximizing the quality of the relationship between leader and follower (Wang et al., 2005). Transformational leaders bring about positive changes in others by inspiring, elevating and challenging them to achieve a higher level of functioning and to go beyond what they originally thought was possible. Guided by Bass and colleagues' (Bass, 1985; Bass 1998; Bass & Riggio, 2006) framework of transformational leadership, this dissertation examined the extension of transformational leadership to the parenting domain, in particular with regard to its effects on adolescent health-enhancing cognitions and behaviours. The overall purpose of this chapter is to (a) synthesize the novel contributions of the research presented in this dissertation, (b) address study limitations, (c) provide directions for future enquiry, and (d) discuss the implications that emerge from the investigations presented within this dissertation.

Novel Contributions of the Research

Taken together, the research presented within this dissertation offers three substantive contributions to the extant parenting and adolescent health literature that can be classified as theoretical, methodological and applied in nature. From a theoretical standpoint, the findings underscore the importance of leadership behaviours demonstrated by parents in relation to adolescent health-enhancing outcomes. That is, empirical support was provided for the extension of transformational leadership to the parenting domain in chapter 3. This was achieved through the development of a conceptually sound and empirically supported measure of transformational

parenting (TPQ) and also through demonstrating positive associations between adolescent perceptions of transformational parenting and adolescent health-enhancing cognitions and life satisfaction. From a methodological standpoint, the approaches utilized within this dissertation also have the potential to contribute to the field of exercise and health psychology, especially in relation to the process of validation. Specifically, in this dissertation a unified view of validity was adopted (cf. Messick, 1989, 1995) and a number of methodological approaches were utilized (i.e., a think-aloud protocol within focus groups) to helped to provide evidence for the construct validity of measures derived from the TPQ. Finally, from an applied perspective, although the intervention in chapter 4 did not bring about the hypothesized changes in parents behaviours and/or adolescent health-related outcomes, the lessons learned from the pilot intervention study will be invaluable for the development of future parenting programs guided by transformational leadership theory. In the following sections, these advances are discussed in greater detail.

Application of Transformational Leadership Theory to the Parenting and Adolescent Health Domain

As highlighted in chapter 2 of this dissertation, parenting is a critical social determinant of the health-related behaviours and well-being of adolescents. The theoretical contributions of the research presented within this dissertation provide support for the extension of transformational leadership theory to the parenting domain, by addressing some of the limitations of existing parenting research, especially in relation to adolescent health. For example, as highlighted in chapter 2 of this dissertation, the predominant focus to date on the prevention of *health-compromising behaviours* in adolescents has meant that researchers have not given the same level of empirical attention to types of parenting that may empower adolescents to engage in *health-enhancing* behaviours. Furthermore, in relation to physical activity behaviours in youth, research

utilizing traditional parenting typologies has produced inconsistent findings. As one example, a recent study by Jago et al. (2011) found that a permissive maternal parenting style was associated with greater physical activity engagement in youth when compared with an authoritative parenting style. This finding starkly contrasts with other adolescent health-related studies which found that authoritative parenting are related to the most adaptive outcomes in youth (e.g., Castrucci, & Gerlach, 2006; Kremers et al., 2003; Simons-Morton et al., 2001). This example highlights a major theoretical shortcoming of the extant literature on parenting. From a *consequential* validity[6] perspective, the implications of findings that indicate a permissive parenting style brings about increased physical activity are concerning (especially from an intervention point of view), as research has also shown that this type of parenting style is associated with the most detrimental health behaviours and poorest levels of subjective well-being in adolescents (Igra & Irwin, 1996; Petito & Cummins, 2000). Research in the parenting domain suggests that it is important to consider the overall quality of the relationship between the adolescent and the parent (cf. Darling & Steinberg, 1993), and this is where the transformational leadership framework is especially valuable. For example, transformational leadership exerts its influence through enhancing the quality of the relationship between leader and follower. Furthermore, the results presented in chapter 3 highlight the positive associations between perceptions of transformational parenting and adolescent health-related cognitions and life satisfaction.

Another limitation of the existing parenting styles literature is that the relationships between various parenting styles and adolescent adaptive outcomes are still not fully understood (cf. Darling & Steinberg, 1993). For example, in relation to the study by Jago and colleagues

[6] Messick (1989) defines *consequential* validity as including the "appraisal of the value implications of the construct label, of the underlying test interpretation, and the ideologies in which the theories are embedded" (p.20).

(2011) highlighted above, the mechanisms through which a permissive parenting style would bring about increased physical activity were not examined (and are difficult to explain at a conceptual level). In support of the application of transformational leadership to the parenting domain, the literature review presented in chapter 2 highlights a number of potential mediators through which transformational parenting may bring about improved adolescent health outcomes. Furthermore, empirical evidence was provided in chapter 3 which demonstrates that perceptions of transformational parenting are associated with greater self-regulatory efficacy for physical activity and healthy eating behaviours. Although physical activity or healthy eating *behaviours* were not examined as part of chapter 3, in line with tenets of self-efficacy theory (Bandura, 1997), it would appear plausible to hypothesize that transformational parenting would bring about positive changes in adolescent health-related *behaviours*. This remains an important direction for future research.

A Unified View of Validity

In addition to the abovementioned conceptual advancements, the research presented within this dissertation makes a novel contribution to the measurement development and validity field within the exercise and health psychology domain, especially in terms of methods to help establish the *substantive* aspect of construct validity (i.e., think-aloud protocol). As purported by Hubley and Zumbo (1996), "one of the biggest hurdles in implementing the current conception of validity is that researchers no longer have a simple checklist of procedures to establish validity" (p. 214). This reflects the gradual shift in the process of validation, whereby *construct* validity has come to be seen as the umbrella term that includes specific test validation operations (Messick, 1989; Smith, 2005). In other words, construct validity encompasses all sources of

evidence (cf. Messick, 1995) supporting the interpretations of scores from a measure as well as subsequent actions based on such interpretations.

Messick (1995) highlighted six aspects of construct validity that can inform the validation process. In this dissertation, evidence is provided for four of these six aspects of construct validity. Specifically (in chapter 2), a thorough review of the parenting and adolescent health behaviour literature was provided, which allowed for a precise and detailed conception of the target construct 'transformational parenting' to be developed. This was ultimately the starting point for establishing evidence of content representativeness and relevance. Furthermore, in chapter 3, expert reviewers and a modified think aloud protocol were utilized to provide further evidence for the *content* aspect of construct validity. The use of expert reviewers to provide information on item content relevance is strongly recommended in the exercise and health psychology field (Dunn, Bouffard, & Rogers, 1999) as a method of enhancing content validity. Similarly, a modified think aloud protocol (cf. Oremus et al., 2005) that is grounded in qualitative methodology (see chapter 3) also provides evidence for the content aspect of construct validity (e.g., the focus groups with parents and adolescents helped to ensure that the content of the TPQ was both relevant and representative and did not omit any important aspects of transformational parenting). In addition, a think-aloud protocol helps to establish evidence for the *substantive* aspect of construct validity. Specifically, the "think-aloud" component of the focus groups provided insight into how respondents arrived at their answers (response processes) and how they interpreted items and other features of the questionnaire (i.e., response format). This aspect of construct validity is often not investigated (Cizek, Rosenberg, & Koons, 2008), especially within the exercise and health psychology domain. In summary, a retrospective think-aloud protocol (in a focus group setting) represents a feasible method for establishing content and substantive

aspects of construct validity. It assists with the refinement of elements of a measure (e.g., items, instructions and response format) and also helps to establish the user-friendliness of instruments. It is recommended that other instrument development studies within the exercise and health psychology field adopt similar think-aloud protocols as part of the measurement validation process.

Providing evidence for *structural* fidelity (i.e., whether the scoring structure of the measurement is in line with the theory of the construct domain) is a crucial aspect of construct validity. This evidence is typically gathered through factor analytic procedures, particularly through the use of CFA (Thompson & Daniel, 1996). In chapter 3, we conducted a CFA of the transformational parenting data utilizing M*plus* (Muthén & Muthén, 2001). M*plus* allows for the analysis of categorical (ordinal) data and includes robust procedures for estimating standard errors and fit statistics that do not rely on multivariate normal indicators, as well as handling missing values within the analysis (Jöreskog, 2005). The CFA models (mother and father models separately) were estimated using a polychoric correlation matrix with a WLSMV estimation procedure. Although this is the most strongly recommended method for analyzing ordered-categorical data (Brown, 2006), it is important to note that even contemporary measurement development research within the exercise and health psychology field often treat data derived from Likert-type scales (with 6 points or less) as continuous for subsequent CFA analyses (e.g., Maïano, Morin, Monthuy-Blanc, & Garbarino, 2009; Sheard, Golby, & van Wersch, 2009). This is problematic as ordered-categorical data do not have units of measurement (e.g., the means, variances, and covariances of ordinal variables have limited meaning as the scores assigned to categories do not have metric properties). Therefore treating categorical as continuous data can

produce biased results (especially if data are non-normally distributed) when using estimation procedures such as maximum likelihood (DiStefano, 2002).

In addition, within chapter 3, latent variable regression analyses were utilized using M*plus* as opposed to standard multiple regression using SPSS. This was done because of the ability of M*plus* to simultaneously model structural (i.e., theoretical relationships among latent variables) and measurement (i.e., relationships between a latent variable and its indicators) paths. In this sense, latent variable regression analysis is preferable to techniques such as standard multiple regression which assumes error free measurement, and therefore potentially produces biased estimates (cf. Aiken & West 1991). This analytic technique not only enables greater support for the *external* aspects of construct validity (i.e., relationships between transformational parenting and specific criterion variables), but it also provides additional support for the structural aspects of construct validity, which corresponded to the second-order measurement model of transformational parenting.

As validation is an on-going process, chapters two to four of this dissertation can be seen as part of a larger validation research program for measures derived from the TPQ. The current conception of validity emphasizes a broad and integrative theory (cf. Hubley & Zumbo, 1996) where the researcher not only accumulates evidence for construct validity through a series of *within-* and *between-network* investigations (cf. Marsh, 1997), but adds to that an examination of the *consequential* basis for the instrument use. This aspect of construct validity (in addition to the *generalizability* aspect of construct validity) is discussed later in this chapter as a future research consideration.

Evidence-Based Interventions: What Have We learned?

Although the findings from the pilot trial presented in chapter 4 were not significant in terms of changing parenting behaviours or adolescent health outcomes, the process of conducting a pilot intervention was useful in terms of advancing a greater understanding of those aspects of the intervention that need to be improved upon within future parenting programs. This study represented a first attempt to enhance transformational leadership behaviours among parents of inactive teens and sought to replicate findings from successful interventions within the organizational psychology domain (e.g., Barling et al., 1996; Dvir et al., 2002; Hardy et al., 2010). As discussed in greater depth in chapter 4, through a process evaluation component with parents and a critical reflection of the intervention protocol, it is possible to make recommendations for guiding future parenting interventions guided by transformational leadership theory. For example, it is recommended that future programs allow for more contact time with parents (i.e., increased dose), are tailored to parents' readiness to change, and include more substantive self-regulatory components, such as a 'seeking social support' component (to help foster self-regulatory efforts) and improved goal setting strategies.

Although short term interventions, such as one day workshops, have been successful with leaders in organizational settings (Barling et al., 1996) this feasibility study highlighted that although similarities exist between leaders (within organizations) and parents (cf. Morton, Barling, et al., 2010; Popper & Mayseless, 2003) there are differences between organizational and family settings that need to be taken into account when designing any future transformational parenting intervention studies. For example, it may simply take longer and require more contact time within a parenting intervention (i.e., an increased dose) to change parenting behaviours when compared to leaders within organizations (or for these changes in parents to be recognized

and internalized by their adolescent children). Nonetheless, chapter 4 of this dissertation provides a foundation for the continued development of effective transformational parenting interventions.

Limitations of the Studies and Future Directions

In spite of the theoretical and methodological contributions highlighted above, it is also important to highlight and reflect upon some of the limitations inherent within this dissertation, and use this to provide directions for future research.

One broad limitation surrounds the conceptualization of transformational parenting as a *globalized* construct. For example, in chapter 3, support was found for a second-order measurement model, which suggests that there are four (highly correlated) dimensions comprising a higher-order latent factor, termed transformational parenting. These four factors were found to be highly correlated, therefore at an empirical level, they lacked discriminant validity. With this in mind, when examining relationships between transformational parenting and adolescent health-related outcomes (in chapters 3 and 4), we conceptualized transformational parenting as a globalized construct. In support of this approach, it has been suggested that when transformational leaders make use of one of these behaviours, it is likely that they will also make use of the other three behaviours (Barling et al., 2010), and support for second-order models of transformational leadership (Avolio et al., 1999; Beauchamp et al., 2010; Jung & Sosik, 2002), as well as unidemensional models (Barling et al., 2002; Walumba, Wang, Lawler, & Shi, 2004) have been found in the literature

Nevertheless, there are limitations associated with adopting a globalized approach to the study of transformational parenting (versus a differentiated approach). In particular, as highlighted within the discussion section of chapter 3, the separate transformational behaviours have also been found to be empirically distinct at a measurement level (e.g., Antonakis et al.,

2003; Hardy et al., 2010; Callow et al., 2009) despite the high inter-factor correlations. Perhaps more importantly, and from an intervention perspective, as studies have found support for the capacity of separate transformational behaviours to differentially predict salient outcomes (e.g., Podsakoff et al., 1990; Podsakoff et al., 1996; Hardy et al., 2010; Callow et al., 2009), it may be useful for future studies to assess the relative contribution of each dimension in determining adolescent health outcomes. For example, this may make designing, implementing and evaluating interventions more effective (See Antonakis et al., 2003), as one may target certain behaviours to achieve desired outcomes. In addition, Bass (1998) suggested that "transformational leaders…behave in ways to achieve superior results by employing one or more of the four components of transformational leadership" (p. 5). This reflects the question of how many of the four behavioural dimensions does a leader need to utilize to be considered 'transformational'? For instance, is one transformational behaviour (if done well enough) sufficient to bring about follower improvements or are more needed? This is an important question for future transformational parenting research, and may best be answered through a differentiated approach whereby the relative influence of each dimension on adolescent adaptive outcomes is examined through both prospective observational and experimental research designs.

In light of these issues surrounding the measurement of transformational leadership in general, research adopting *qualitative* approaches might also be helpful. For example, in depth interviews with parents and adolescents over time may reveal what transformational behaviours parents exhibit, how these are perceived by adolescents and also the relative effects of each of the four transformational behaviour dimensions. For example, are some dimensions of transformational parenting valued more in certain parenting situations? Although this dissertation employed two qualitative approaches, namely a think-aloud protocol within a focus group context

(see chapter 3) and also a process evaluation component utilizing open ended surveys (see chapter 4), future research is warranted that places more emphasis on qualitative approaches for studying transformational parenting. For example, leadership is a highly symbolic and subjective phenomenon (cf. Conger, 1989; Hunt, 1991); therefore, it has been suggested that qualitative methods may be advantageous as quantitative methods alone may not be sufficient to capture the dynamic and interpretative nature of leadership. In other words, leadership research ultimately demands both qualitative and quantitative research methods (Conger, 1998).

From a validity theory perspective, the unified view of validity suggests that multiple sources of evidence need to be integrated for the investigation of construct validity. The studies presented within this dissertation address several aspects of construct validity (cf. Messick, 1995), namely, the content, substantive, structural, and external aspects of construct validity. It would be crucial for future research to investigate the other two, namely the *generalizability* and *consequential* aspects of construct validity.

In support of the application of transformational leadership theory to parenting, research has demonstrated that transformational behaviours exist in a variety of cultures (e.g., Dorfman & Howell, 1997; Kuchinke, 1999; Ardichvili & Gasparishvili, 2001). However, the generalizability of the transformational parenting construct was not tested in the present dissertation. Specifically, the two empirical studies presented in this dissertation were conducted in the same geographical region (Vancouver, BC). Although the samples in chapters 3 and 4 were diverse in terms of adolescent's ethno-cultural background, it would be of great interest to validate measures derived from the TPQ with samples from different regions/countries, and perhaps with different age groups in order to investigate to what degree the score properties and interpretations generalize to groups of youth (i.e., older adolescents, younger children) in different contexts.

With regard to the *consequential* aspect of construct validity, future studies need to investigate the intended and unintended consequences of the score interpretation and use of the TPQ (cf. Hubley & Zumbo, in press). Future questions that might be considered include the consequences of parents scoring extremely low on the TPQ or finding a very small number of transformational parents in one demographic in particular, and as a result, the impacts these sorts of factors would have on the conclusions we draw about parents (and their roles in adolescent health). Furthermore, it would be useful to amass information about the value implications of the construct label itself (e.g., "transformational parenting") and the broader theory of *leadership* in families (cf. Galbraith & Schvaneveldt, 2005). Implications of construct labels (i.e. taking the label from business and organizational settings and applying to parenting) should be explored in future studies as claims about what constructs/dimensions are being measured are often taken at face value. Specifically, the term "transformational" has been broadly defined by many writers to include almost any type of effective leadership, regardless of the underlying influence processes (Yukl, 1999). In addition, it might be helpful to question how parents and adolescents interpret construct labels and the implications this might have for future studies using the TPQ. As part of the on-going validity process it may be useful to utilize qualitative approaches, such as focus groups including parents from a variety of ethnic backgrounds[7] and ages to explore the consequential basis of validity. This would provide an insight into whether construct labels may have to be modified to reflect factors that are more sensitive to a certain parenting context. To summarize these ideas, Messick (1989) contends that researchers who acknowledge that their scientific interpretations are value laden (and that such interpretations have inherent social consequences for individuals and groups) will be more aware of the limitations of their

[7] Messick (1989) refers to the cultural generalizability as the extent to which validity evidence accumulated in certain cultural groups generalizes to the other focal groups.

conclusions, thus giving greater acknowledgment to competing interpretations and enhancing the validity of the inferences that are made. In summary, as validation is an on-going process, it will be important for future research to continually monitor the purposes for which the TPQ is administered and to critically investigate the intended and unintended consequences of the use and interpretation of the TPQ scores with regard to these purposes.

The limitations relating to the pilot intervention study are discussed in depth within chapter 4. However, a limitation from the inconclusive findings of this study is that no causal relationships between transformational parenting and adolescent health-enhancing cognitions, behaviours and life satisfaction can be demonstrated. Therefore, future studies are required to assess to what extent transformational parenting can be developed through intervention. In light of the findings reported in chapter 4 of this dissertation, future studies may need to tailor a transformational parenting program to parents' readiness to change, or potentially delimit participation to those who are 'ready to change'. A key aspect of this is preparing parents (before the program commences) to take responsibility and be accountable for changes in the parent-adolescent relationship. Indeed, a goal of the transformational parenting intervention was to enhance self-regulation of parenting behaviours and develop parents who can be self-reliant (cf. Sanders, 2008). There are a number of reasons why even parents who *are* motivated to change their parenting strategies and behaviours may have had difficulties in maintaining the implementation of transformational parenting strategies. For example, research has shown that parental stressors such as separation or divorce (Smyth & Moloney, 2008), or job-related stress (Ilies et al., 2007) can affect implementation of positive parenting strategies. With a specific focus on family-based physical activity interventions, a recent meta-analysis highlighted the relatively low success rate of family-based physical activity interventions (O'Connor, Jago, &

Baranowski, 2009). With this in mind, future research should continue to modify and refine transformational parenting programs that reflect parents' readiness to change, foster parenting efficacy and help parents to overcome external factors (e.g., job stress or school-related factors such as bullying) to sustain changes in parenting behaviours to ultimately improve adolescent health and well-being.

Another broad limitation of this dissertation relates to the decision to focus exclusively on the *transformational* component of transformational leadership theory conceptualised by Bass and Riggio (2006) and not to assess parents' use of *transactional* parenting approaches. As discussed in chapter 2, transactional leadership involves exchange processes between leaders and followers, and the use of corrective behaviours by leaders to eliminate problems and gain compliance amongst others. Although the transformational parenting intervention briefly described transactional parenting approaches to parents, the focus of the workshop (and the follow-up support program) was on transformational parenting behaviours. It is important to note, however, that research has suggested that some parent-adolescent relationships may be so dysfunctional that parenting strategies to control adolescents might *first* be needed to provide a solid foundation in order to subsequently build a better relationship (cf. Scott & Dadds, 2009). Indeed, Avolio (1999) contends that "transactions are at the base of transformations" (p. 37). Although *transformational* parenting approaches are hypothesized to motivate adolescents beyond their own expectations of what they can achieve and to bring about greater health-enhancing outcomes (cf. Bass, 1998; Morton, Barling et al., 2010), *transactional* leadership may be also required. That is, rather than assume transactional parenting behaviours are already being used by parents, we may need to devote more time to fostering transactional parenting in the workshop, before discussing the benefits of transformational parenting practices. This approach

may ensure that future interventions set a *transactional foundation* for successful parenting in order to help adolescents meet initial expectations and to ultimately augment those parenting approaches (i.e., contingent reward, parental monitoring) with transformational behaviours. Howell and Avolio (1993) purport that transformational leadership complements transactional leadership and that effective leaders often supplement transactional leadership with transformational leadership. In future, research should seek to examine this augmentation hypothesis in the parenting and adolescent health promotion domain (cf. Bass & Avolio, 1993). Bass (1998) described the augmentation effect as the degree to which "transformational leadership styles build on the transactional base in contributing to the extra effort and performance of followers" (p. 5).

As highlighted in the review paper by Morton, Barling et al., (2010) presented in chapter 2 of this dissertation, there are a number of potential health-related cognitions and behaviours that can be targeted in a study of transformational parenting. As this dissertation represented a first attempt to conceptualize, measure and utilize the transformational parenting construct with adolescents in relation to health promotion, the focus was on health-enhancing cognitions and behaviours (namely physical activity and healthy eating and life satisfaction). A limitation is that only two potential mediators highlighted in chapter 2 (see Figure 2.1) were subsequently assessed in the subsequent two chapters. Specifically, in chapter 3 self-regulatory efficacy was assessed, and in chapter 4 self-regulatory efficacy and self-determined motivation were assessed. In future, research should seek to examine the role of other potential mediators such as self-esteem and health-related attitudes. Furthermore, as highlighted in the discussion presented within chapter 3, future studies may also seek to investigate the role of transformational parenting in relation to adolescent health-compromising behaviours, such as smoking, sexual risk taking and alcohol

consumption, and the mechanisms through which transformational parenting may affect these types of health behaviours.

Finally, we did not test for moderation effects in the present dissertation. In light of the potential moderators discussed in chapter 2, future studies (especially experimental studies) should seek to explore the moderation effects of socio-economic status (SES) of families. Research has shown that parents in lower SES communities give more priority to conformity and obedience than autonomy and self-determination (LeVine, 1974), suggesting they might benefit more from transformational parenting interventions. In addition, research suggests that efforts to curb inactivity and poor diet should target adolescents from low SES families (Hanson & Chen, 2007). Finally, and as highlighted within the review presented in chapter 2, it may also be of interest to study the moderation effects of adolescent *contact time* with parents, as limited contact (i.e., as a result of separation or divorce) results in less opportunity for developing close relationships through which adolescents may be exposed to parents' transformational behaviours.

Implications of the Research Findings

In addition to the theoretical and empirical contributions highlighted in this dissertation, and in spite of the limitations noted above, the findings hold significant potential in terms of facilitating improved parent-adolescent relationships and ultimately fostering adolescent health behaviours and well-being. Aside from specific recommendations that were discussed in previous chapters, a number of broad implications of this body of research are discussed in this section.

In chapter 3, positive associations between perceptions of transformational parenting and key indicators of adolescent health, namely self-regulatory efficacy for physical activity and healthy eating, and life satisfaction were found. In light of evidence that self-efficacy leads to increased physical activity, it is plausible to suggest that transformational parenting behaviours

would be positively associated with enhanced physical activity in adolescents. As an interesting side-note, although the intervention presented in chapter 4 did not produce changes in transformational parenting behaviours, the correlations (see Table 4.1) demonstrated that adolescent perceptions of transformational parenting at Time 1 were positively correlated with both subjective (r = .43) and objective (r =.31) physical activity levels at Time 1. Furthermore, these relationships were also demonstrated prospectively at Time 2, with positive correlations demonstrated between adolescent perceptions of transformational parenting and both subjective (r =.42) and objective (r = .29) physical activity levels. Although further experimental research is clearly required to demonstrate causality, these findings have potential implications for adolescent health. For example, as highlighted in chapter 1, sustained physical inactivity has been attributed to over 25 chronic health conditions (Warburton, Katzmarzyk, Rhodes, & Shephard, 2007), yet youth continue to be insufficiently active (Cameron, Craig, Stephens, & Ready, 2002). Data on the health benefits of physical activity in youth include favourable changes in biomarkers for cardiovascular disease, increased bone and muscle strength and less adiposity (Strong et al., 2005), in addition to better psychological health, such as higher levels of self-esteem and lower levels of anxiety and stress (Hallal et al., 2006).

Similarly, life satisfaction has been shown to be an important predictor of a variety of adaptive outcomes in adolescents (for reviews see Antaramian et al., 2008 and Huebner, 2004), with studies demonstrating that life satisfaction is correlated with a variety of intra-personal variables (e.g., social stress, anxiety, and depression) and inter-personal variables (e.g., relationships with parents and friends) in adolescents (Huebner et al., 2000). Transformational parenting behaviours were found to predict significant variance in adolescent life satisfaction (see chapter 3). Furthermore, positive and significant correlations were also demonstrated in chapter 4

(see Table 4.1) between adolescent perceptions of transformational parenting at Time 1 and adolescent life satisfaction at Time 1 (r = .56) and prospectively at Time 2 (r = .54). Therefore, it is reasonable to speculate that long term positive adolescent development can be fostered through the use of transformational parenting strategies and behaviours.

The results of the studies presented within this dissertation (especially the lessons learned from conducting a pilot intervention), provide important considerations for developing future parenting programs to bring about sustained changes in parenting behaviours, and ultimately in adolescent health-enhancing cognitions and behaviours. In light of the findings that perceptions of transformational parenting are associated with health-enhancing cognitions and life satisfaction, continued efforts are required in order to develop successful interventions that can help to establish causality and ultimately lead to larger scale evidence-based and cost-effective parenting interventions.

Summary

The contributions of the research presented in this dissertation are critical for the further use of the TPQ in research within the parenting domain. However, it is important to highlight that validation is an on-going process, not limited to one or two studies. As this dissertation represents the first body of research to extend transformational leadership theory to the fields of parenting and adolescent health promotion, future prospective observational and experimental studies are required to further establish the construct validity of the transformational parenting construct. It is hoped that the chapters presented in this dissertation contribute to a process that culminates in both empirical research as well as the translation of research into practice.

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Appendices

Appendix A.1: Participant Information Letters

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Participant Information Letter (Adolescent Version)
Adolescent Health Promotion – The Role of Parents: Focus Group Study

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are currently developing a questionnaire designed to be used with adolescents. This questionnaire will examine perceptions of parenting strategies and behaviours that parents use with adolescents. The information that this questionnaire will provide will help us to better understand what motivates adolescents to lead a healthy lifestyle.

In order to develop a useful questionnaire, we want to hear your opinions about the questions we are using and whether you think that they are appropriate for adolescents. Please know that your involvement in this study is voluntary. It's up to you if you want to take part or not. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. If you decide to take part, you will also be free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

If you agree to participate, you will be invited to take part in a group discussion with approximately 10 other students from your class. You will be asked to read the questionnaire we have developed, and then you will

discuss your opinions on the questions we are using. This will last approximately 1 hour (this will take part in school hours at a time convenient for you and your teacher). The discussions that take place will be audio-recorded and transcribed for analysis.

Any information provided within these discussions will be made anonymous, whereby no personal information that can identify you will be made available within any reports that may result from the research. Furthermore, the principal investigator will ensure that audio-recordings are not over-heard and that transcripts not read by anyone other than the researchers involved with this study. Although the focus group discussions will not deal with topics of a sensitive nature, we will ask that all participants refrain from disclosing the contents of the discussion outside of the focus group. However, it is important to note that we cannot control what other participants do with the information discussed in the focus groups, and therefore confidentiality cannot be guaranteed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no-one other than the researchers involved in the study will have access to this information.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

We would also like you to take the parental consent form that's attached to this letter and give it to one of your parents/legal guardians. If your parents do not speak English, please let us know what language they do speak and we will give you a translated copy of this letter. If your parents agree to you taking part in this study, please return the signed letter to your teacher.

We look forward to seeing you in a few weeks time.

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Participant Information Letter (Parent Version)
Adolescent Health Promotion – The Role of Parents: Focus Group Study

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are currently developing a questionnaire designed to be used with adolescents and parents (of adolescents). This questionnaire will examine perceptions of parenting strategies and behaviours that parents use with adolescents. The information that this questionnaire will provide will help us to better understand parents' influence on the health-related behaviours and outcomes with their adolescent child.

In order to develop a useful questionnaire, we want to hear your opinions about the questions we are proposing to use and whether you think that they are appropriate for parents of adolescents. Please know that your involvement in this study is voluntary. It's up to you if you want to take part or not. If you decide to take part, you will also be free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

If you agree to participate, you will be invited to take part in a group discussion with approximately 4/5 other parents from your local area. You will read the questionnaire we have developed and be invited to discuss your opinions on the questions we are using. This will last approximately 1 hour (and will take part at UBC; November 14th; 10am-11am; War Memorial Gym; room 100). The discussions that take place will be audio-recorded and transcribed for analysis. You will receive $20 honorarium for your participation.

Any information provided within these discussions will be made anonymous, whereby no personal information that can identify you will be made available within any reports that may result from the research. Furthermore, the principal investigator will ensure that audio-recordings are not over-heard and that transcripts not read by anyone other than the researchers involved with this study. Although the focus group discussions will not deal with topics of a sensitive nature, we will ask that all participants refrain from disclosing the contents of the discussion outside of the focus group. However, it is important to note that we cannot control what other participants do with the information discussed in the focus groups, and therefore confidentiality cannot be guaranteed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no-one other than the researchers involved in the study will have access to this information.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

We look forward to seeing you in a few weeks time.

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Appendix A.2: Participant Consent/Assent Forms

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Parental Consent Form
Adolescent Health Promotion – The Role of Parents: Focus Group Study

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are currently developing a questionnaire designed to be used with adolescents. This questionnaire will examine perceptions of parenting strategies and behaviours that parents use with adolescents. The information that this questionnaire will provide will help us to better understand what motivates adolescents to lead a healthy lifestyle. In order to develop a useful questionnaire, we want to hear adolescent's opinions about the questions we are using and whether they think that they are appropriate for adolescents. We are contacting you because we are interested in speaking with your child about our questionnaire. Please know that your child's involvement in this study is voluntary.

If you agree to participate, your child will be invited to take part in a focus group with approximately 10 other students from their class. He/she will read the questionnaire we have developed and be invited to discuss his/her opinions on the questions we are using. This will last approximately 1 hour (this will take part in school hours at a time convenient for your child and their teacher). The discussions that take place will be audio-recorded and transcribed for analysis. If for ANY reason, your child does not want to take part in this study, they don't have to. Also, even if they decide to take part, they will be free to withdraw at any time without having to give any reason, and will not experience ANY negative consequences at all.

Any information your child provides within these discussions will be made anonymous, whereby no personal information that can identify your child will

be made available within any reports that may result from the research. Furthermore, the principal investigator will ensure that audio-recordings are not over-heard and that transcripts not read by anyone other than the researchers involved with this study. Although the focus group discussions will not deal with topics of a sensitive nature, we will ask that all participants refrain from disclosing the contents of the discussion outside of the focus group. However, it is important to note that we cannot control what other participants do with the information discussed in the focus groups, and therefore confidentiality cannot be guaranteed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no-one other than the researchers involved in the study will have access to this information.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or the rights and treatment of your child as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

Once you have signed and returned this form, we will provide a photocopy for your records.

I consent/do not consent (please circle one) to my child participating in this study.

Name (printed):_____

Name (signed):_____

Your Child's Name (printed):_____

Date: _____

We will also seek the informed consent of your child before s/he is allowed to participate in this research project.

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Consent Form (Adolescents)
Adolescent Health Promotion – The Role of Parents: Focus Group Study

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are currently developing a questionnaire designed to be used with adolescents. This questionnaire will examine perceptions of parenting strategies and behaviours that parents use with adolescents.

In order to develop a useful questionnaire, we want to hear your opinions about the questions we are using and whether you think that they are appropriate for adolescents. Please know that your involvement in this study is voluntary. It's up to you if you want to take part or not. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. If you decide to take part, you will also be free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

If you agree to participate, you will be invited to take part in a group discussion with approximately 10 other students from your class. You will read the questionnaire we have developed and be invited to discuss your opinions on the questions we are using. This will last approximately 1 hour (this will take part in school hours at a time convenient for you and your teacher). The discussions that take place will be audio-recorded and transcribed for analysis.

Any information provided within these discussions will be made anonymous, whereby no personal information that can identify you will be made available within any reports that may result from the research. Furthermore, the principal investigator will ensure that audio-recordings are not over-heard and that transcripts not read by anyone other than the researchers involved with this

study. Although the focus group discussions will not deal with topics of a sensitive nature, we will ask that all participants refrain from disclosing the contents of the discussion outside of the focus group. However, it is important to note that we cannot control what other participants do with the information discussed in the focus groups, and therefore confidentiality cannot be guaranteed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no-one other than the researchers involved in the study will have access to this information.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

Consent:
I consent to take part in this study of 'Adolescent Health Promotion – The Role of Parents: Focus group Study'. The study has been explained to me and I understand what is involved. I understand that my participation in this study is entirely voluntary and that I may withdraw from the study without having to give any reason for doing so and without experiencing any negative consequences. I understand that if I do not wish to answer any question or discuss any topic that is raised, I may refuse to answer and the interviewer will go onto the next question. If I withdraw from the study, the information I have supplied (tapes, notes) will be destroyed.

I am willing to take part in the focus group and understand that this will last approximately 1 hour, and I am happy for the conversations to be tape-recorded. I have received a copy of this consent form for my own records. I also understand that any identifying characteristics will be removed from the information I supply so that my anonymity is protected.

By signing this form you have consented to participate in this study.

SIGNED……

NAME IN BLOCK LETTERS……

DATE……

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Consent Form (Parents)
Adolescent Health Promotion – The Role of Parents: Focus Group Study

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are currently developing a questionnaire designed to be used with adolescents and parents (of adolescents). This questionnaire will examine perceptions of parenting strategies and behaviours that parents use with adolescents.

In order to develop a useful questionnaire, we want to hear your opinions about the questions we are proposing to use and whether you think that they are appropriate for parents of adolescents. Please know that your involvement in this study is voluntary. It's up to you if you want to take part or not. If you decide to take part, you will also be free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

If you agree to participate, you will be invited to take part in a focus group discussion with approximately 4/5 other parents from your local area. You will read the questionnaire we have developed and be invited to discuss your opinions on the questions we are using. This will last approximately 1 hour. The discussions that take place will be audio-recorded and transcribed for analysis. You will receive $20 honorarium for your participation.

Any information provided within these discussions will be made anonymous, whereby no personal information that can identify you will be made available within any reports that may result from the research. Furthermore, the principal investigator will ensure that audio-recordings are not over-heard and that transcripts not read by anyone other than the researchers involved with this study. Although the focus group discussions will not deal with topics of a sensitive nature, we will ask that all participants refrain from disclosing the contents of the discussion outside of the focus group. However, it is important

to note that we cannot control what other participants do with the information discussed in the focus groups, and therefore confidentiality cannot be guaranteed. All interview transcripts will be kept in a locked cabinet in the office of the principal investigator and no-one other than the researchers involved in the study will have access to this information.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

Consent:
I consent to take part in this study of 'Adolescent Health Promotion – The Role of Parents: Focus group Study'. The study has been explained to me and I understand what is involved.

I understand that my participation in this study is entirely voluntary and that I may withdraw from the study without having to give any reason for doing so and without experiencing any negative consequences. I understand that if I do not wish to answer any question or discuss any topic that is raised, I may refuse to answer and the interviewer will go onto the next question. If I withdraw from the study, the information I have supplied (tapes, notes) will be destroyed.

I am willing to take part in the focus group and understand that this will last approximately 1 hour, and I am happy for the conversations to be tape-recorded.

I have received a copy of this consent form for my own records. I also understand that any identifying characteristics will be removed from the information I supply so that my anonymity is protected.

By signing this form you have consented to participate in this study.

SIGNED……

NAME IN BLOCK LETTERS……

DATE……

Appendix A.3: Focus Group Protocol and Guide

Focus Group Protocol and Guide

1. **Allow adolescents/parents to read and sign informed consent**

2. **Introduction to focus group**

"We will shortly begin a long-term research project that centers on applying a new model of leadership to understand how perceptions of parent's leadership behaviours impact adolescent health behaviours and well-being. For this study, we have developed some questions about parenting behaviours and strategies. There are 2 versions of this questionnaire, one for adolescents and one for parents. You will be looking at the adolescent/parent (choose one) version today.

We want to check that people understand the questions in the way that we meant them. To do this, I am going to ask all of you to complete the questionnaire; this will take about 5 minutes. Please complete this on your own, and circle any parts of questionnaire that give you difficulty. We will then proceed to discuss each question in turn as well as the overall format of the questionnaire."

3. **All participants in the focus group to spend first 5 minutes completing the adolescent OR parent version of the TPQ.**

4. **This is followed by the probes – asking ALL participants to respond**

Focus Group Probes

Multiple question probes:

1. What, in your own words, does the question mean to you (asked for each question)?
   - If an item is flagged as problematic: What did you think the item is reflecting?
   - In what other ways can you ask this question?
2. Did the answer choices include your answer?

General Probes (asked at end of discussion)**:**

3. Did you understand *how* to answer the questions (i.e., were the instructions clear?)
4. Did the questionnaire leave anything out that you felt was important?
5. If you had to take out a question, which would it be and why?

Focus Group Guide

Each participant in the focus group will be handed the initial 'Transformational Parenting Questionnaire' (see below) and as a group, we will go through each question and discuss each item.

****

PART A
In this section, we would like you to describe the parenting strategies used by your parent(s)/guardian(s).

If you have one parent/guardian, please complete section B1 only. If you have two parents/guardians please complete section B1 and B2 (separately for each parent/guardian).

Please state clearly which parent/guardian you are thinking about when completing each questionnaire. For example, the first questionnaire may be completed about your Mother and the second questionnaire may be complete about your Father. **Please complete the questionnaire(s) about the parents/guardians you spend MOST of your time with (Maximum of TWO).**

To answer each question, please circle the number that best describes what you think. **If a question is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please be as honest as possible, and answer how frequently each statement fits the parent/guardian you are describing.

Use the following rating scale:

Not at all	Once in a while	Sometimes	Fairly often	Frequently
0	1	2	3	4

B1. The parent/guardian I am thinking about when completing this questionnaire is:

_____ (e.g., Mother/Father/Step-Mother/Foster-Mother/Grandfather etc.)

MY PARENT/GUARDIAN……

Acts as a person that I look up to……..…….	0	1	2	3	4
Treats me in ways that build my respect for him/her……..…..	0	1	2	3	4
Talks about his/her personal values and beliefs…….	0	1	2	3	4
Behaves as someone that I can trust……...	0	1	2	3	4
Behaves in manner that is consistent and reliable……..……	0	1	2	3	4
Behaves as someone that I can depend on…….	0	1	2	3	4
Is enthusiastic about what I am capable of achieving……	0	1	2	3	4
Motivates me to try my hardest……..	0	1	2	3	4
Is optimistic about what I can accomplish…….	0	1	2	3	4
Demonstrates that s/he believes in me……...	0	1	2	3	4
Inspires me to achieve my goals……	0	1	2	3	4
Displays genuine care and concern for me……	0	1	2	3	4
Provides unconditional support……..	0	1	2	3	4
Helps me when I am struggling…….	0	1	2	3	4
Recognizes and adapts to my needs and abilities……..	0	1	2	3	4
Shows comfort and understanding when I am upset/frustrated…….	0	1	2	3	4
Displays a genuine interest in my life……	0	1	2	3	4
Creates an environment that really encourage me to think……	0	1	2	3	4
Shows respect for my ideas and opinions…….	0	1	2	3	4
Provides me with tasks and challenges that get me to think in different ways…….	0	1	2	3	4
Encourages me to look at issues from different sides……	0	1	2	3	4
Gets me to question my own and others' ideas…….	0	1	2	3	4
Encourages me to freely express my own ideas and opinions within our family…….	0	1	2	3	4

If you only have parent/guardian, please do not fill in the next section, please go straight to PART C.

B2. The parent/guardian I am thinking about when completing this questionnaire is:

_____(e.g., Mother/Father/Step-Mother/Foster-Mother/Grandfather etc.)

MY PARENT/GUARDIAN……

Acts as a person that I look up to……..……	0	1	2	3	4
Treats me in ways that build my respect for him/her……..…..	0	1	2	3	4
Talks about his/her personal values and beliefs…….	0	1	2	3	4
Behaves as someone that I can trust……...	0	1	2	3	4
Behaves in manner that is consistent and reliable……..……	0	1	2	3	4
Behaves as someone that I can depend on…….	0	1	2	3	4
Is enthusiastic about what I am capable of achieving……	0	1	2	3	4
Motivates me to try my hardest……..	0	1	2	3	4
Is optimistic about what I can accomplish…….	0	1	2	3	4
Demonstrates that s/he believes in me……...	0	1	2	3	4
Inspires me to achieve my goals……	0	1	2	3	4
Displays genuine care and concern for me……	0	1	2	3	4
Provides unconditional support……..	0	1	2	3	4
Helps me when I am struggling…….	0	1	2	3	4
Recognizes and adapts to my needs and abilities……..	0	1	2	3	4
Shows comfort and understanding when I am upset/frustrated…….	0	1	2	3	4
Displays a genuine interest in my life……	0	1	2	3	4
Creates an environment that really encourage me to think……	0	1	2	3	4
Shows respect for my ideas and opinions…….	0	1	2	3	4
Provides me with tasks and challenges that get me to think in different ways…….	0	1	2	3	4
Encourages me to look at issues from different sides……	0	1	2	3	4
Gets me to question my own and others' ideas…….	0	1	2	3	4
Encourages me to freely express my own ideas and opinions within our family…….	0	1	2	3	4

Appendix B.1: Participant Information Letter

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Student Information Letter
Adolescent Health Promotion – The Role of Parents

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are interested in your attitudes towards the parenting strategies that your parents use with you and also your health-related attitudes and behaviours (e.g., healthy eating and physical activity). In two weeks time we will be coming to your school and we will invite you to complete a survey. This should take 15-20 minutes of your time and this will be done during school hours. The information you provide will help us to better understand what motivates adolescents to lead a healthy lifestyle.

We want to hear your opinion on these issues as your views are very important to us. Please know that your involvement in this study is voluntary. It's up to you if you want to take part or not. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. If you decide to take part, you will also be free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

If you decide to take part, you will not be asked to put your name on the survey and your answers will be kept private, and will not be shared with ANYONE else. That means your responses will be combined with those of other students and so no-one will know how you have answered the questions except you. All completed surveys will be kept in a locked cabinet at UBC. Your survey will not be made available to anyone other than the researchers involved in this study.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

We would also like you to take the parental information letter that's attached to this letter and give it to one of your parents/legal guardians. If your parents do not speak English, please let us know what language they do speak and we will give you a translated copy of this letter. If for any reason they wish for you not to take part in this study they can let us know by phone or by email, or they can sign and return the attached letter.

We look forward to seeing you in a few weeks time.

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Appendix B.2: Parental Consent Form

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Parent/Guardian Information Letter

Adolescent Health Promotion – The Role of Parents

Mark Beauchamp, PhD
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

Dear Parent,

My name is Katie Morton and I'm a researcher at the University of British Columbia. I am currently involved in a long-term program of research that is designed to better understand the role of parents in the promotion of health-related behaviours (healthy eating and physical activity) of adolescents. In two weeks time I will be going in to your child's school and will be inviting students to complete a survey. In this survey we will ask students a series of questions about their perceptions of parenting behaviours and also about their health-related attitudes and behaviours (diet and physical activity). You can view a copy of the questionnaire that your child will be asked to complete on our website:

http://www.hkin.educ.ubc.ca/faculty/beauchampm/MarkBeauchamp.htm

It will take students approximately 15-20 minutes to complete the surveys. None of the questions that we ask are of a delicate or intrusive nature and there are no known risks associated with students' involvement in this study. Student participation is entirely voluntary, and even if students initially choose to take part in this study they may subsequently withdraw at any time without having to give any reason and without experiencing any negative consequences.

Your child will **not** be asked to put his/her name on the survey and the answers your child provides will be combined with those of other students who are

taking part in this research and any information students provide will remain completely confidential. All completed questionnaires will be kept in a locked cabinet at the University of British Columbia and shall not be made available to anyone other than the researchers involved in this study.

If you **DO NOT** wish for your child to take part in this research, all we ask you to do is complete this form and return it to your child's teacher. Alternatively, you can email or phone myself or Dr. Beauchamp using the contact details identified above and we will ensure that your son/daughter does not take part in this study. Also, even if you have consented for your child to take part in this study, we also require his/her own consent as well before s/he can be invited to take part. If you have any questions or want further information about the study please contact myself or Dr. Mark Beauchamp at (604) 822 4864. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

SO, IF YOU **DO NOT** WANT YOUR CHILD TO TAKE PART PLEASE SIGN THIS FORM AND RETURN THIS TO YOUR CHILD'S TEACHER:

I……(Parent/Guardian Name)

DO NOT wish for my child ……(Child's Name) to take part in this research.

Signed…… Date……..
(Parent/Guardian Name)

Yours sincerely,

Mark Beauchamp, PhD
(Principal Investigator)

Katie Morton, MSc

This letter is also available in Chinese, Korean, Spanish, Polish, and Farsi.

Appendix B.3: Questionnaire

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Survey

Adolescent Health Promotion – The Role of Parents

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are interested in your attitudes towards parenting strategies and also your health-related attitudes and behaviours (e.g., healthy eating and physical activity). The information you provide will help us to better understand what motivates adolescents to lead a healthy lifestyle.

We want to hear your opinion on these issues. There are no right or wrong answers. There are no good or bad answers and this is NOT a test. It will take about 15 minutes to complete this questionnaire package. You are asked to do this on your own. Your answers are very important to us so please make sure you complete all answers honestly.

If you have any questions please just ask the researcher. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. It is up to you if you want to take part or not. You are also free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

DO NOT PUT YOUR NAME ON THIS SURVEY. Your answers will be kept confidential. Your responses will be combined with those of other students and so no-one will know how you answered the questions except you. All completed surveys will be kept in a locked cabinet at UBC. Your questionnaire will not be made available to anyone other than the researchers involved in this research.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of this page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

By completing this questionnaire you are agreeing to participate in this study. Please read the instructions carefully. Once you have finished, please check to see that all questions have been answered. When you have finished just return the questionnaire to the researcher.

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Questionnaire

PART A: Background Information

A1. Date of Birth: _____ (Day) _____ (Month) 19_____ (Year)

A2. Place of Birth: _____ (City) _____ (Country)

A3. What is your age (years):_____

A4. Gender (check one): ☐ Male ☐ Female

A5. How do you describe yourself in terms of your ethnic origin? **Please mark the one or two groups that you feel most closely describe(s) your ethnic origin**.

	✓		✓		✓
Canadian		East Indian		American (USA)	
Native/Aboriginal		Dutch		Norwegian	
Chinese		Persian		Italian	
British		Polish		Korean	
Irish		Ukrainian		Filipino	
German		Russian		African	
French		Vietnamese		Jewish	

Other_____

A6. Today's date: _____ (Day) _____ (Month) 20_____ (Year)

PART B

In this section, we would like you to describe the parenting strategies used by your parent(s)/guardian(s).

If you have one parent/guardian, please complete section B1 only. If you have two parents/guardians please complete section B1 and B2 (separately for each parent/guardian).

Please state clearly which parent/guardian you are thinking about when completing each questionnaire. For example, the first questionnaire may be completed about your Mother and the second questionnaire may be completed about your Father. **Please complete the questionnaire(s) about the parents/guardians you spend MOST of your time with (Maximum of TWO).**

To answer each question, please circle the number that best describes what you think. **If a question is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please read each sentence carefully and answer honestly. Thank you.

Use the following rating scale:

Strongly Disagree	**Disagree**	**Slightly Disagree**	**Slightly Agree**	**Agree**	**Strongly Agree**
0	1	2	3	4	5

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
0	1	2	3	4	5

B1. The parent/guardian I am thinking about when completing this questionnaire is:

_____ (e.g., Mother/Father/Step-Mother/Foster-Mother/Grandfather etc.)

MY PARENT/GUARDIAN……

1. Acts as a person that I look up to……..…….……	0	1	2	3	4	5
2. Is optimistic about what I can accomplish……..…….	0	1	2	3	4	5
3. Gets me to think for myself…...……...……..….	0	1	2	3	4	5
4. Displays a genuine interest in my life…….……	0	1	2	3	4	5
5. Behaves as someone that I can depend on……...…….	0	1	2	3	4	5
6. Demonstrates that s/he believes in me……...	0	1	2	3	4	5
7. Encourages me to look at issues from different sides……..……	0	1	2	3	4	5
8. Helps me when I am struggling ……..…….	0	1	2	3	4	5
9. Behaves as someone that I can trust ……..……...…….....	0	1	2	3	4	5
10. Is enthusiastic about what I am capable of achieving…….……	0	1	2	3	4	5
11. Encourages me to freely express my own ideas and opinions……..…	0	1	2	3	4	5
12. Shows comfort and understanding when I am upset/frustrated……	0	1	2	3	4	5
13. Treats me in ways that build my respect for him/her ……..……..…….	0	1	2	3	4	5
14. Encourages me to achieve my goals …….……..	0	1	2	3	4	5
15. Shows respect for my ideas and opinions ……..…….	0	1	2	3	4	5
16. Displays genuine care and concern for me ……	0	1	2	3	4	5

If you only have ONE parent/guardian, please do not fill in the next section, please go straight to PART C.

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
0	1	2	3	4	5

B2. The parent/guardian I am thinking about when completing this questionnaire is:

_____ (e.g., Mother/Father/Step-Mother/Foster-Mother/Grandfather etc.)

MY PARENT/GUARDIAN……

1. Acts as a person that I look up to…….……..…….	0	1	2	3	4	5
2. Is optimistic about what I can accomplish……..…….	0	1	2	3	4	5
3. Gets me to think for myself…...……...……..….	0	1	2	3	4	5
4. Displays a genuine interest in my life……..……	0	1	2	3	4	5
5. Behaves as someone that I can depend on……...…….	0	1	2	3	4	5
6. Demonstrates that s/he believes in me……...	0	1	2	3	4	5
7. Encourages me to look at issues from different sides……..……	0	1	2	3	4	5
8. Helps me when I am struggling ……..…….	0	1	2	3	4	5
9. Behaves as someone that I can trust ……..……...……...	0	1	2	3	4	5
10. Is enthusiastic about what I am capable of achieving…….……	0	1	2	3	4	5
11. Encourages me to freely express my own ideas and opinions……..…	0	1	2	3	4	5
12. Shows comfort and understanding when I am upset/frustrated……	0	1	2	3	4	5
13. Treats me in ways that build my respect for him/her ……..……..…….	0	1	2	3	4	5
14. Encourages me to achieve my goals …….……..	0	1	2	3	4	5
15. Shows respect for my ideas and opinions …….…….	0	1	2	3	4	5
16. Displays genuine care and concern for me …….……	0	1	2	3	4	5

PART C

INSTRUCTIONS:
For each question, please indicate **how confident you are in your ability** to manage that aspect of your exercise participation over the **NEXT 3 weeks**, using the following scale:

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all Somewhat Completely

Please list your responses in the columns to the right of each question:

	Confidence (0-100)
1. How confident are you that you can **motivate yourself to get at least 30 minutes of activity a day, 3 times per week** over the *next 3 weeks*?	_____
2. How confident are you that you can **use safe, effective exercise techniques (e.g., warm-up, stretching)** over the *next 3 weeks*?	_____
3. How confident are you that you can **schedule exercise sessions into your weekly routine so that you get at least 30 minutes of exercise a day, 3 times per week** over the *next 3 weeks*?	_____
4. How confident are you that you can **plan exercise sessions that will be at least moderately difficult (e.g., have you breathing a little hard/your heart rate increases)** over the *next 3 weeks*?	_____
5. How confident are you that you can **monitor your exercise progress by recording what exercises you do, how often you do them and for how long** over the *next 3 weeks*?	_____
6. How confident are you that you can **set realistic, weekly exercise goals for yourself (e.g., exercising 3 days/week)** over the *next 3 weeks*?	_____
7. How confident are you that you can **return to exercising after missing a session** over the *next 3 weeks*?	_____
8. How confident are you that you can **monitor and regulate the intensity of your exercise so that it is moderately difficult** over the *next 3 weeks*?	_____
9. How confident are you that you can **develop solutions to cope with potential barriers that can interfere with your exercise** over the *next 3 weeks*?	_____
10. How confident are you that you can **plan exercises that fit within your other daily activities** over the *next 3 weeks*?	_____

PART D

INSTRUCTIONS:
For each question, please indicate **how confident you are in your ability** to manage that aspect of your diet over the **NEXT 3 weeks**, using the following scale:

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all Somewhat Completely

Please list your responses in the columns to the right of each question:

	Confidence (0-100)
1. How confident are you in your ability to **bring a healthy lunch** with you to school over the *next 3 weeks*?	_____
2. How confident are you in your ability to **eat healthily even if you are being overwhelmed** by the demands of school over the *next 3 weeks*?	_____
3. How confident are you that **if you are preparing a meal or snack, it would be a healthy option** over the *next 3 weeks*?	_____
4. How confident are you in your ability to **not let your schedule get in the way of your plans to eat healthy** over the *next 3 weeks*?	_____
5. How confident are you that **if you are going to eat out, you will choose healthy meals** over the *next 3 weeks*?	_____

PART E

For each of the following statements, please circle the number that describes you the best. Please read each sentence carefully and answer honestly. Thank you.

	Disagree a lot	Disagree a little	Do not agree or disagree	Agree a little	Agree a lot
In most ways my life is close to the way I would want it to be.	1	2	3	4	5
The things in my life are excellent.	1	2	3	4	5
I am happy with my life.	1	2	3	4	5
So far I have gotten the important things I want in life.	1	2	3	4	5
If I could live my life over, I would have it the same way.	1	2	3	4	5

Appendix C.1: Participant Information Letters (Parent and Adolescent)

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Adolescent Health Promotion Program – The Role of Parents

Letter of Introduction (Parent Version)

WHO IS DOING THE RESEARCH?

The principal investigator for this study is Dr. Mark Beauchamp, Assistant Professor in the School of Human Kinetics at The University of British Columbia (UBC).. The co-investigator for this study is Katie Morton, a PhD Candidate in the School of Human Kinetics at UBC.

WHAT IS THE RESEARCH ABOUT?

In this research we are interested in working with parents and their children (aged 12-16) to gain a better understanding of the role that parents play in terms of fostering healthy behaviours (e.g. physical activity) with their teens. As part of this research we are interested in testing the effectiveness of an intervention (a half-day workshop and a follow up support program) designed to support parents in their parenting role, especially in relation to fostering their child's physical activity behaviours. Only adolescents who do not meet current physical activity guidelines (i.e., less than 150 minutes per week of moderate to vigorous physical activity) will be eligible to participate (this will be assessed by Katie Morton, through use of a short questionnaire before the study begins). If your child meets these criteria you will be eligible to participate.

WHAT WILL PARTICIPATING IN THE STUDY INVOLVE?

If you agree to participate, you (and your teenage child) will be invited to complete a questionnaire on two occasions (September & November, 2010). On each occasion this questionnaire will take about 25 minutes to complete and is designed to help us gain a better understanding of the role that parents play in relation to their children's' health behaviours. This questionnaire will be completed in your home at a time convenient for both you and your child. As part of this study we would also look to provide physical activity monitors (called accelerometers) to the adolescents involved in the study, on two occasions (for 5-day periods) over this 2-month study to wear on their arms. There are no anticipated risks associated with this study.

In addition, if you agree to participate, you will be invited to take part in a parenting workshop (plus a follow-up program that consists of a workbook for use in your own time) that focuses on positive parenting practices with adolescents. There will be two opportunities for you to take part in this program (late September or December 2010). If you take part in the workshop in December, your questionnaire responses (from September and November) will be compared to those participants who took part in the (late) September workshop. This workshop will be led by Dr. Mark Beauchamp, and integrates principles from organizational and health psychology in order to inform parenting strategies that promote healthy adolescent development. This workshop will be put on free of charge to you (we will incur all costs for this workshop – you'd just need to get yourself to UBC in either Sept or Dec).

WHAT WILL BE DONE WITH THE INFORMATION THAT I PROVIDE?
Any information that you provide will be made anonymous, whereby no personal information that can identify you will be made available within any reports (e.g., journal articles) that may result from this research. Furthermore, all questionnaires will be kept in a locked cabinet in the office of the principal investigator. Once this information has been entered into an electronic data base, this information will be stored on a password protected computer in the same office, and no one other than the researchers associated with this study will have access to this information.

HOW WILL THE RESEARCH BE USEFUL?
The information collected as part of this project will provide an important foundation for developing effective parenting initiatives across British Columbia designed to support parents in fostering healthy lifestyles with their children.

WHAT ARE MY RIGHTS?
Your participation (and your child's participation) in this research is entirely voluntary and you both may withdraw from the study at any time without having to give any reason for doing so and without experiencing any negative consequences. Specifically, signed consent will be requested (from both parent and adolescent) and these forms will be provided before the initial data collection and again before the second data collection. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

WHAT ABOUT REMUNIERATION?
If you choose to participate in this research you will not receive any financial payment. However, any costs associated with the workshop (transit fare, parking) will be reimbursed.

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Adolescent Health Promotion Program – The Role of Parents

Letter of Introduction (Adolescent Version)

WHO IS DOING THE RESEARCH?
The principal investigator for this study is Dr. Mark Beauchamp, Assistant Professor in the School of Human Kinetics at The University of British Columbia (UBC). The co-investigator for this study is Katie Morton, a PhD Candidate in the School of Human Kinetics at UBC.

WHAT IS THE RESEARCH ABOUT?
In this research we are interested in working with parents and their children (aged 12-16) to gain a better understanding of the role that parents play in terms of fostering healthy behaviours (e.g. physical activity) with their teens. As part of this research we are interested in testing the effectiveness of a 3 hour workshop for parents (you will not attend this) designed to support them, especially in relation to fostering their child's physical activity behaviours. Only adolescents who do not meet current physical activity guidelines (i.e., less than 150 minutes per week of moderate to vigorous physical activity) will be eligible to participate (this will be assessed by Katie Morton, through the use of a short questionnaire before the study begins). If you meet these criteria you (and your parent) will be eligible to participate.

WHAT WILL PARTICIPATING IN THE STUDY INVOLVE?
If you agree to participate, you (and your parent) will be invited to complete a questionnaire on two occasions – (September and November 2010). On each occasion this questionnaire will take about 25 minutes to complete and is designed to help us gain a better understanding of the role that parents play in relation to their children's' health behaviours. This questionnaire will be completed in your home at a time convenient for both you and your parent. As part of this study we would also look to provide you with a 3cm x 3cm physical activity monitor (called accelerometers) on two occasions (for 5-day periods) over this 2-month study to wear on your waist.

WHAT WILL BE DONE WITH THE INFORMATION THAT I PROVIDE?
Any information that you provide will be made anonymous, whereby no personal information that can identify you (or your parent) will be made available within any reports (e.g., journal articles) that may result from this research. Furthermore, all questionnaires will be kept in a locked cabinet in the

office of the principal investigator. Once this information has been entered into an electronic data base, this information will be stored on a password protected computer in the same office, and no one other than the researchers associated with this study will have access to this information.

HOW WILL THE RESEARCH BE USEFUL?
The information collected as part of this project will provide an important foundation for developing effective parenting initiatives across British Columbia designed to support parents in fostering healthy lifestyles with their children.

WHAT ARE MY RIGHTS?
Your participation (and your parent's participation) in this research is entirely voluntary and you both may withdraw from the study at any time without having to give any reason for doing so and without experiencing any negative consequences. Specifically, signed consent will be requested (from both parent and adolescent) and these forms will be provided before the initial data collection and again before the second data collection. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

WHAT ABOUT PAYMENT?
If you choose to participate in this research you will not receive any financial payment.

Appendix C.2: Consent Forms and Questionnaires (Parent and Adolescent)

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Consent Form and Questionnaire (Parent Version)
Adolescent Health– The Role of Parents

Principal Investigator:
Mark R. Beauchamp, Ph.D.
School of Human Kinetics
University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are interested in your perceptions of and attitudes towards your parenting strategies and behaviours (in relation to your teenage child). This information is to be used in a research study that seeks to gain a better understanding of the role of the parent in terms of adolescent health behaviours.

We want to hear your opinion on these issues. There are no right or wrong answers. There are no good or bad answers and this is NOT a test. It will take about 25 minutes to complete this questionnaire package. You are asked to do this on your own. Your answers are very important to us so please make sure you complete all answers honestly.

If you have any questions please just ask the researcher. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. It is up to you if you want to take part or not. You are also free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

DO NOT PUT YOUR NAME ON THIS SURVEY. Your answers will be kept confidential. Your responses will be combined with those of other parents and so no-one will know how you answered the questions except you. All completed surveys will be kept in a locked cabinet at UBC. Your questionnaire will not be made available to anyone other than the researchers involved in this research.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of the previous page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

……

I consent to take part in this research, designed to examine my perceptions of and attitudes towards parenting strategies and behaviours (in relation to my teenage child). The study has been explained to me and I understand what is involved.

I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time without having to give any reason for doing so, and without experiencing any negative consequences.

By signing this form you have consented to participate in this study.

SIGNED.....……

NAME IN BLOCK LETTERS.....

DATE.....

In addition, I also give consent for my child to participate in this study if s/he chooses to do so.

CHILD'S NAME……

SIGNED ……..

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Questionnaire

***PART A*: Background Information**

A1. Date of Birth: _____ (Day) _____ (Month) 19_____ (Year)

A2. Place of Birth: _____ (City) _____ (Country)

A3. What is your age (years):_____

A4. Gender (check one): ☐ Male ☐ Female

A5. Marital Status (check one): Married ☐ Single (never been married) ☐

Divorced ☐ Separated ☐ Widowed ☐

Living with partner ☐

A6. How do you describe yourself in terms of your ethnic origin? **Please mark the one or two groups that you feel most closely describe(s) your ethnic origin**.

	✓		✓		✓
Canadian		East Indian		American (USA)	
Native/Aboriginal		Dutch		Norwegian	
Chinese		Persian		Italian	
British		Polish		Korean	
Irish		Ukrainian		Filipino	
German		Russian		African	
French		Vietnamese		Jewish	

Other_____

A7. What is your annual household income (check one):

$0-25,000 ☐ $25,000-50,000 ☐ $50,000-75,000 ☐

$75-100,000 ☐ $100,000+ ☐

A8. What is your child's gender? (Check one): Male ☐ Female ☐

A9. What is your child's age? _____ years

A10. Today's date: _____ (Day) _____ (Month) 20_____ (Year)

PART B:
In this section, we would like you to describe the parenting strategies/behaviours that you use with your adolescent child.

Please complete the questionnaire with regard to the child who is taking part in this research project with you.

To answer each question, please circle the number that best describes what you think. **If a question is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please be as honest as possible, and answer how frequently each statement fits the child you are describing.

Use the following rating scale:

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
0	1	2	3	4	5

As a parent, I……

1. Act as a person that my child looks up to…….…….	0	1	2	3	4	5
2. Am optimistic about what my child can accomplish……..…….	0	1	2	3	4	5
3. Get my child to think for his/her self……...……..….	0	1	2	3	4	5
4. Display a genuine interest in my child's life..……	0	1	2	3	4	5
5. Behave as someone that my child can depend on…….……	0	1	2	3	4	5
6. Demonstrate that I believe in my child..……...	0	1	2	3	4	5
7. Encourage my child to look at issues from different sides……..……	0	1	2	3	4	5
8. Help my child when he/she is struggling……..…….	0	1	2	3	4	5
9. Behave as someone that my child can trust ……..……..……...	0	1	2	3	4	5
10. Am enthusiastic about what my child is capable of achieving..……	0	1	2	3	4	5
11. Encourage my child to freely express his/her own ideas and opinions……..…	0	1	2	3	4	5
12. Show comfort and understanding when my child is upset/frustrated……	0	1	2	3	4	5
13. Treat my child in ways that build his/her respect for me..……..…….	0	1	2	3	4	5
14. Encourage my child to achieve his/her goals…….……..	0	1	2	3	4	5
15. Show respect for my child's ideas and opinions……..…….	0	1	2	3	4	5
16. Display genuine care and concern for my child…….……	0	1	2	3	4	5

PART C

We would like to ask you a few questions about your experiences as a parent. We are interested in knowing how you view yourself as a parent in your relationship with your child. Using the 5 scale below, indicate how much you agree with the following statements by circling the response that best applies to you:

1 Strongly Agree	2 Disagree	3 Neither Agree nor Disagree	4 Agree	5 Strongly Agree

A. I feel sure of myself as a parent of a teen.	**1**	**2**	**3**	**4**	**5**
B. I know that I am doing a good job as a parent of a teen.	**1**	**2**	**3**	**4**	**5**
C. I know things about being a parent that would be helpful to other parents.	**1**	**2**	**3**	**4**	**5**
D. I provide good guidance to my teen to help him/her deal with challenges.	**1**	**2**	**3**	**4**	**5**
E. I can solve most problems between my teen and me.	**1**	**2**	**3**	**4**	**5**
F. When things are going badly between my teen and me, I keep trying until things begin to change.	**1**	**2**	**3**	**4**	**5**
G. My teen follows my directions.	**1**	**2**	**3**	**4**	**5**
H. I know what it takes to be a parent of a teen.	**1**	**2**	**3**	**4**	**5**
I. I worry that I am not able to help my child.	**1**	**2**	**3**	**4**	**5**

PART D

This questionnaire is designed to help us gain better understanding of the kinds of things that create difficulties for parents to affect their children's leisure time physical activity. Please rate how certain you are that you can do the things discussed below by writing the appropriate number.

Rate you degree of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all				Moderately can do					Highly certain can do	

	Confidence (0-100)
1. Get your child into physical activities outside of school (e.g. dance lessons, sport)	_____
2. Get your child to keep physically fit	_____
3. Find time for physical activity with your child	_____

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Consent Form and Questionnaire (Adolescent Version)

Adolescent Health– The Role of Parents

Principal Investigator:
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University of British Columbia
Contact Number: 604-822 4864

Co-Investigator:
Katie Morton, MSc
School of Human Kinetics
University of British Columbia
Contact Number: 604-822-4267

We are researchers from the University of British Columbia (UBC). We are interested in your attitudes towards parenting strategies and also your physical activity attitudes and behaviours. The information you provide will help us to better understand what motivates adolescents to lead a healthy lifestyle.

We want to hear your opinion on these issues. There are no right or wrong answers. There are no good or bad answers and this is NOT a test. It will take about 25 minutes to complete this questionnaire package. You are asked to do this on your own. Your answers are very important to us so please make sure you complete all answers honestly.

If you have any questions please just ask the researcher. If for ANY reason, you do not want to take part in this study that's fine, you don't have to. It is up to you if you want to take part or not. You are also free to withdraw at any time without having to give any reason. If you drop out you will not experience ANY negative consequences at all.

DO NOT PUT YOUR NAME ON THIS SURVEY. Your answers will be kept confidential. Your responses will be combined with those of other students and so no-one will know how you answered the questions except you. All completed surveys will be kept in a locked cabinet at UBC. Your questionnaire will not be made available to anyone other than the researchers involved in this research.

There are no known risks associated with participation in this study. If you have any questions about what is involved please contact Dr. Mark Beauchamp or Katie Morton by email or phone. Their email addresses and phone numbers are at the top of the previous page. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

By completing this questionnaire you are agreeing to participate in this study. Please read the instructions carefully. Once you have finished, please check to see that all questions have been answered. When you have finished just return the questionnaire to the researcher.

……

I consent to take part in this research, designed to look my attitudes towards parenting strategies and also my physical activity attitudes and behaviours. The study has been explained to me and I understand what is involved.

I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time without having to give any reason for doing so, and without experiencing any negative consequences.

By signing this form you have consented to participate in this study.

SIGNED……

NAME IN BLOCK LETTERS……

DATE……

Thank you for your help,

Mark Beauchamp, PhD Katie Morton, MSc

Questionnaire

***PART A*: Background Information**

A1. Date of Birth: _____ (Day) _____ (Month) 19_____ (Year)

A2. Place of Birth: _____ (City) _____ (Country)

A3. What is your age (years):_____

A4. Gender (check one): ☐ Male ☐ Female

A5. How do you describe yourself in terms of your ethnic origin? **Please mark the one or two groups that you feel most closely describe(s) your ethnic origin**.

	✓		✓		✓
Canadian		East Indian		American (USA)	
Native/Aboriginal		Dutch		Norwegian	
Chinese		Persian		Italian	
British		Polish		Korean	
Irish		Ukrainian		Filipino	
German		Russian		African	
French		Vietnamese		Jewish	

Other_____

A6. What is your mother/female guardian's job? _____

A7. What is your father/male guardian's job? _____

A8. Today's date: _____ (Day) _____ (Month) 20_____ (Year)

PART B:
In this section, we would like you to describe the parenting strategies used by your parent/guardian.

Please complete the questionnaire about the parent/guardian who is taking part in this research project with you.

To answer each question, please circle the number that best describes what you think. **If a question is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.** Please be as honest as possible, and answer how frequently each statement fits the parent/guardian you are describing.

Use the following rating scale:

Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
0	1	2	3	4	5

MY PARENT/GUARDIAN……

1. Acts as a person that I look up to……..…….……..	0	1	2	3	4	5
2. Is optimistic about what I can accomplish……..…….	0	1	2	3	4	5
3. Gets me to think for myself…..……...……..….	0	1	2	3	4	5
4. Displays a genuine interest in my life…….……	0	1	2	3	4	5
5. Behaves as someone that I can depend on……...…….	0	1	2	3	4	5
6. Demonstrates that s/he believes in me……..	0	1	2	3	4	5
7. Encourages me to look at issues from different sides……..……	0	1	2	3	4	5
8. Helps me when I am struggling ……..…….	0	1	2	3	4	5
9. Behaves as someone that I can trust ……..……..……...	0	1	2	3	4	5
10. Is enthusiastic about what I am capable of achieving…….……	0	1	2	3	4	5
11. Encourages me to freely express my own ideas and opinions……..…	0	1	2	3	4	5
12. Shows comfort and understanding when I am upset/frustrated……	0	1	2	3	4	5
13. Treats me in ways that build my respect for him/her ……..……..…….	0	1	2	3	4	5
14. Encourages me to achieve my goals …….	0	1	2	3	4	5
15. Shows respect for my ideas and opinions ……..…….	0	1	2	3	4	5
16. Displays genuine care and concern for me ……	0	1	2	3	4	5

PART C

INSTRUCTIONS:
For each question, please indicate **how confident you are in your ability** to manage that aspect of your exercise participation over the **NEXT 3 weeks**, using the following scale:

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all Somewhat Completely

Please list your responses in the columns to the right of each question:

	Confidence (0-100%)
1. How confident are you that you can **motivate yourself to get at least 30 minutes of activity a day, 3 times per week** over the *next 3 weeks*?	_____
2. How confident are you that you can **use safe, effective exercise technique (e.g., warm-up, stretching)** over the *next 3 weeks*?	_____
3. How confident are you that you can **schedule exercise sessions into your weekly routine so that you get at least 30 minutes of exercise a day, 3 times per week** over the *next 3 weeks*?	_____
4. How confident are you that you can **plan exercise sessions that will be at least moderately difficult (e.g., have you breathing a little hard, your heart rate increases)** over the *next 3 weeks*?	_____
5. How confident are you that you can **monitor your exercise progress by recording what exercises you do, how often you do them and for how long** over the *next 3 weeks*?	_____
6. How confident are you that you can **set realistic, weekly exercise goals for yourself (e.g., exercising 3 days/week)** over the *next 3 weeks*?	_____
7. How confident are you that you can **return to exercising after missing a session** over the *next 3 weeks*?	_____
8. How confident are you that you can **monitor and regulate the intensity of your exercise so that it is moderately difficult** over the *next 3 weeks*?	_____
9. How confident are you that you can **develop solutions to cope with potential barriers that can interfere with your exercise** over the *next 3 weeks*?	_____
10. How confident are you that you can **plan exercises that fit within your other daily activities** over the *next 3 weeks*?	_____

PART D

In this section, we are interested in the reasons why teenagers decide to take part, or not take part, in physical activity/exercise. Using the scale below, please indicate to what extent each of the following items is true for you.

		Not true for me		Sometimes true for me		Very true for me
1.	I exercise because other people say I should	0	1	2	3	4
2.	I feel guilty when I don't exercise	0	1	2	3	4
3.	I value the benefits of exercise	0	1	2	3	4
4.	I exercise because it's fun	0	1	2	3	4
5.	I don't see why I should have to exercise	0	1	2	3	4
6.	I take part in exercise because my friends/family/partner say I should	0	1	2	3	4
7.	I feel ashamed when I miss an exercise session	0	1	2	3	4
8.	It's important to me to exercise regularly	0	1	2	3	4
9.	I can't see why I should bother exercising	0	1	2	3	4
10.	I enjoy my exercise sessions	0	1	2	3	4
11.	I exercise because others will not be pleased with me if I don't	0	1	2	3	4
12.	I don't see the point in exercising	0	1	2	3	4
13.	I feel like a failure when I haven't exercised in a while	0	1	2	3	4
14.	I think it is important to make the effort to exercise regularly	0	1	2	3	4
15.	I find exercise a pleasurable activity	0	1	2	3	4
16.	I feel under pressure from my friends/family to exercise	0	1	2	3	4
17.	I get restless if I don't exercise regularly	0	1	2	3	4
18.	I get pleasure and satisfaction from participating in exercise	0	1	2	3	4
19.	I think exercising is a waste of time	0	1	2	3	4

PART E

In this section of the questionnaire we are interested in finding out how much time you spend (outside of PE class) involved in physical activity, as well as your physical activity intentions.

1. During a typical **7-Day period** (a week), how many times on average do you do the following kinds of exercise for **more than 15 minutes** during your **free (leisure) time** (write on each line the appropriate number):

Times per Week

a) STRENUOUS EXERCISE
(HEART BEATS RAPIDLY)
(e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling) _____

b) MODERATE EXERCISE
(NOT EXHAUSTING)
(e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing) _____

c) MILD EXERCISE
(MINIMAL EFFORT)
(e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking) _____

2. During a typical **7-Day period** (a week), in your leisure time, how often do you engage in any regular activity **long enough to work up a sweat** (heart beats rapidly)? Please tick one box.

OFTEN	SOMETIMES	NEVER/RARELY
☐	☐	☐

PART F

Please circle the number below that corresponds to your intentions to be physically active during the next month.

	Very unlikely	Unlikely	Somewhat unlikely	Neutral	Somewhat likely	Likely	Very likely
I **intend** to exercise/play sport at least 3 times a week during the next month	1	2	3	4	5	6	7
I **plan** to exercise/play sport at least 3 times a week during the next month	1	2	3	4	5	6	7
I am **determined** to exercise/play sport at least 3 times a week during the next month	1	2	3	4	5	6	7

PART G

For each of the following statements, please circle the number that describes you the best. Please read each sentence carefully and answer honestly. Thank you.

	Disagree a lot	Disagree a little	Do not agree or disagree	Agree a little	Agree a lot
In most ways my life is close to the way I would want it to be.	1	2	3	4	5
The things in my life are excellent.	1	2	3	4	5
I am happy with my life.	1	2	3	4	5
So far I have gotten the important things I want in life.	1	2	3	4	5
If I could live my life over, I would have it the same way.	1	2	3	4	5

Transformational Leadership and Adolescent Physical Activity

Parent Handbook

Katie L. Morton & Mark R. Beauchamp

Adolescent Physical Activity

Why it's worth the time and effort

Physical Activity Can Help Teens:

Feel physically better

- Helps with weight control, builds muscle and reduces fat
- Can help to regulate appetite to eat according to the body's needs
- Improves posture
- Increases strength, flexibility and aerobic fitness

Be healthier in the long run!

- Helps build and maintain healthy bones
- Lowers cholesterol
- Lowers high blood pressure
- Decreases risk for heart disease, Type 2 diabetes and certain cancers
- Makes life longer and more enjoyable!

Feel better in mind and spirit

- Helps to cope with stress in a healthy way
- Leads to less tobacco, alcohol and drug use
- Reduces feelings of depression and anxiety
- Increases ability to concentrate in school
- Improves sleep patterns
- Promotes confidence and self-esteem
- Improves body image
- Provides opportunities to meet new friends
- Fun!

Transformational Leadership
What is it and why is it important?

A broad definition of leadership is "To get people (i.e., our kids) to do things they otherwise would not have done…because,
[a] They want to do it
[b] They understand why!

As a parent, you are in a leadership role with your child. However, the key to developing long-lasting positive behaviours in your child is to lead by persuasion and not by coercion - this is where Transformational Leadership comes in!

During the workshop, we talked about Transactional Leadership. Although some of these behaviours, such as *monitoring* your teen and *goal setting* (with rewards and consequences) are important for healthy adolescent development……

Sometimes as a parent, it's far too easy to rely too much on parenting approaches that focus on the negatives!

Transactional Leadership

Contingent Reward

-Set goals

-Provide feedback

-"Behaviours should have consequences"

Management by Exception

"The key to developing people is to catch them doing something right."

Transformational Leadership is a different kind of leadership style. Its primary focus is on "maximising the quality of relationships with others". Transformational leaders place great importance on *empowering* those who they lead and *encouraging* others to go beyond what they thought was originally possible.

Indeed, as your child matures into adolescence, certain health behaviours (such as physical activity and healthy eating) become increasingly voluntary. Therefore parenting behaviours that go beyond focusing on the negatives (such as ensuring your child avoids health-compromising behaviours) become increasingly necessary in order to empower your child to CHOOSE to carry out POSITIVE health behaviours!

"Little changes will make a big difference in the long term"

A Reminder of the 4 I's of Transformational Leadership

IDEALIZED INFLUENCE

- Behaves as a role model
- Does what is *right*, not what is convenient
- Creates trust and respect
- Consistent and dependable
- And if you make a mistake don't be afraid to *apologize*

INSPIRATIONAL MOTIVATION

- Raises expectations
- Convinces individuals they can achieve 'beyond expectations'
- Is optimistic and enthusiastic about what can be achieved
- Sets high standards

INTELLECTUAL STIMULATION

- Challenges others to think for themselves
- Shows respect for others' ideas and opinions
- Gets people to think about old problems in new ways
- Encourages individuals to see issues from multiple perspectives

INDIVIDUAL CONSIDERATION

- Listens, displays empathy and compassion
- Recognizes individuals' physical and psychological needs
- Displays genuine care and concern

Idealized Influence: What can I do?

- Behaves as a role model
- Does what is *right*, not what is convenient
- Creates trust and respect
- Consistent and dependable
- And if you make a mistake, don't be afraid to *apologize*

Despite anecdotal evidence to the contrary, the overwhelming majority of teens consider their own parent(s) to be their most important role model(s). So the most important thing to focus on is being a great, positive role model yourself.

- Let your child see you following through on your words.
- Talk to your child about your own values and beliefs (in relation to school, health, peers etc.)
- Practice what you preach!

Teenagers are different to young kids. A teenager wants to be treated like an "adult". Respecting your teenager is vital to build trust between parents and teens. Most of us parent with the mindset of trying to get the situation under control as soon as possible. We often look for the convenient and quick solutions, which is often achieved by asserting our parental authority. This often results in children who feel overpowered. But, if you strive to parent in a way that keeps in mind how you want your child to be as an adult, you will be more thoughtful in the way that you interact with your teen.

"Transformational leaders do the RIGHT thing for the RIGHT reason, even if this takes time"

Give up *some* control! Trust is mutual, therefore you must be willing to give away some control in those areas where you trust your teen to make good decisions, while continuing to guide him/her in those areas where you feel your teen has limited knowledge or experience.

Have you ever felt that when you talk to your teenage child, the message goes in one ear and out of the other? One reason teenagers do not listen to their parents is that adults sometimes do not mean what they say, or do not follow through on what they say. For example, depending on what mood we are in or how the day has gone, we often treat the same behaviour in different ways. For example, one day a child may be rude and we react by giving a lecture. The next day the same type of behaviour occurs and we ignore it. The following day the behaviour is seen again and we restrict the child from some type of privilege, and so forth. This is where idealized influence comes in. Transformational leaders are consistent and dependable.

"Do not say anything you can't do or don't intend to do, and do *everything* you say you are going to do."

It's sometimes hard to face, but as parents, no-one is perfect and everyone makes mistakes. For example, how often have you been hard on your child when you know you should have been soft? Or, you snap when you should have been kind? A good APOLOGY is much more than saying "I'm sorry." Unless you state what you are sorry about, the words can feel empty and cold. This is where the *acknowledgment* part comes in - the acknowledgment is a summary of the wrongdoing as it affects the other person. For example, "I know I hurt you by yelling and I am so sorry".

Idealized Influence and Physical Activity Promotion

Talk about the importance of physical activity and its benefits, but try not to place the emphasis on weight management. Focus more on the social benefits and how physical activity can make you feel better (in both the short and long term).

Take a look at what you are modeling in terms of physical activity. Remember its IDEALized influence not IDOLized influence.....you don't need to be a fitness freak to be a great role model! Something as simple as the manner in which you communicate your own health-related values and beliefs has the potential to transfer to your child.

- Reframe sentences such as "I feel so fat and out of shape" to "I feel better about my body after I push it a bit" or "I used to be only able to walk for 10 minutes, now I'm up to an hour".
- When you are watching others dance or compete in sports and activities avoid comments like "she'd look more graceful if she was thinner" and emphasize how good it is that "all shapes, sizes and abilities are competing"

Next time your family is planning a vacation or day out, make it an active one, and plan ahead for ACTIVE family time!

"Be the change you want to see in the world" (Mahatma Gandhi)

Idealized Influence Personal Log

Barriers and Challenges to Idealized Influence

Over the next 2 months, if any **barriers or challenges** to utilizing **idealized influence** in your parenting approaches emerge, please use the space below to write them. In addition, please note any **potential solutions** to these barriers and challenges. Try to think of examples of parenting in general (e.g., "I'm finding it difficult to trust my teen as she often makes bad decisions") and also specific to physical activity (e.g., "I don't have the time to take part in physical activity with my teen").

Post Workshop

Barriers & Challenges (Idealized Influence): Parenting in general:

_____

_____

_____

_____

_____

Barriers & Challenges (Idealized Influence): Physical activity specific:

_____

_____

Week 1-2

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 3-4

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 5-6

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Inspirational Motivation: What can I do?

- Raises expectations
- Convinces individuals they can achieve 'beyond expectations'
- Is optimistic and enthusiastic about what can be achieved
- Sets high standards

Teens today are often confronted with new and unfamiliar issues, and indeed many parents struggle to identify effective strategies to stimulate and motivate their teens. A lack of enthusiasm and motivation is common among adolescents and often stems from:

- A lack of belief in their own abilities
- No awareness of the importance and usefulness of the subject or goal
- Being too stressed or nervous
- Low self-esteem.

As a parent, it is vital that you convince your child of what they are capable of achieving. This is NOT achieved through instilling fear into them by telling them what happens if they don't achieve it, or by rewarding them with money or other incentives, but by setting high (yet achievable) standards and convincing them that they can achieve beyond what they originally thought was possible.

Transformational leadership centers on developing an inspiring vision of the future, or what things could be like. A vision is:

- Seeing the obvious that other people overlook
- Seeing what ought to be done and explaining how to do it.

Individuals will follow a person who inspires them and a person with *vision* and *passion* can achieve great things. The way to get things done is by injecting enthusiasm and energy into your actions and behaviours.

It is important to set high expectations for your teen, in all aspects of their life; high standards lead to greater accomplishments. If parents encourage their children to set clear goals and expectations and display optimism and support for their teens to achieve their goals, their children will likely feel more successful and feel motivated to do even better.

Inspirational Motivation and Physical Activity Promotion

In terms of physical activity promotion, perhaps talk with your child about what you think is possible (this is your VISION). This can be something as simple as getting your child to be active 3 times per week (for at least 30 minutes each time).

Use whatever works for you to convince your child to maintain a physically active lifestyle, and remember to PLAN AHEAD IN ORDER TO MAKE TIME FOR THESE ACTIVITIES. This takes ENERGY and COMMITMENT.

Remember, success builds on prior success. Encourage physical activity in your teen in order to promote their self-confidence in what they can achieve. If your child has never really been physically active and you suddenly encourage running every day, chances are he/she will be discouraged!

Teenagers want to excel and feel successful in activities, and these feelings of success are a powerful motivator to continue doing the activity. Teenagers also want to feel autonomous, so let them take the lead in choosing the activities they want to pursue. Try to keep an optimistic perspective, as it may take a couple of tries before your son or daughter finds an activity or sport that s/he likes doing. Try not to get frustrated if they change their mind a couple of times. A strong relationship and good communication with your child will help you both figure out the perfect activity for them.

"The very essence of leadership is that you have to have a vision. It's got to be a vision you articulate clearly. You can't blow a weak trumpet." (Theodore Hesburgh)

Inspirational Motivation Personal Log

Barriers and Challenges to Inspirational Motivation

Over the next 2 months, if any **barriers or challenges** to utilizing **inspirational motivation** in your parenting approaches emerge, please use the space below to write them. In addition, please note any **potential solutions** to these barriers and challenges. Try to think of examples of parenting in general (e.g., "I'm finding it difficult to motivate my teen to do anything, they just seem so unenthusiastic") and also specific to physical activity (e.g., "My teen has no energy for physical activities after school").

Post Workshop

Barriers & Challenges (Inspirational Motivation): Parenting in general:

_____

_____

_____

_____

_____

Barriers & Challenges (Inspirational Motivation): Physical activity specific:

_____

_____

Week 1-2

Date: _____

Barriers/challenges experienced:

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 3-4

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

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_____

_____

_____

Week 5-6

Date: _____

Barriers/challenges experienced: _____

_____

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_____

Potential strategies for overcoming barrier(s): _____

_____

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_____

Intellectual Stimulation: What can I do?

- Challenges others to think for themselves
- Shows respect for others' ideas and opinions
- Gets people to think about old problems in new ways
- Encourages individuals to see issues from multiple perspectives

The transformational leader creates intellectual stimulation by encouraging creative problem solving and inspires followers to think independently and to question and re-think their own ideas.

As a parent of a teenager, you are faced with a number of challenges that are unique to this age group, such as increased worries about their lifestyle choices and behaviours. Indeed, given the increased amount of time that you will spend apart from your teenage child means you have to *trust* him/her to make the right decisions. This is where the provision of intellectual stimulation in your parenting can be used to your advantage.

It's easy to resort back to *Transactional Parenting Approaches* when the going gets tough – that is, you end up punishing/reprimanding your teen by grounding them, or shouting at them if they do not meet goals or perform to expectations, but:

Resist the urge to clamp down and 'control' your son or daughter - Remember that teenagers often want to demonstrate their independence and autonomy. Encourage your child to think for him/herself.
Show respect and interest for your child's idea's and values, whether relating to religion, school, family issues or health. It is crucially important that you encourage them to express their own opinions and distinctive ideas freely, and without judgment.

Expose your teenager to various ideas - Sometimes a teenager lacks motivation because he or she hasn't yet been exposed to what might be a life passion. Look for different programs, give your teen a chance to try them, and keep an open mind in order to help your teen to find his or her interests and passion.

"A person's mind, stretched to a new dimension, never goes back to its original dimensions" (Oliver Wendell Holmes)

Intellectual Stimulation and Physical Activity Promotion

Acknowledge your teen's difficulties and challenges to getting physically active, and try to brainstorm coping strategies with them; encourage them to think of ideas for themselves (in terms of activities they might enjoy).

Avoid forcing or pushing your teen into activities that he/she does not enjoy. Instead discuss alternatives and challenge your teen to come up with activities that work for him/her and that s/he feels comfortable doing. Challenge them to one new activity per week (or every two weeks) that you can try together.

Help encourage your teenager to make a mental connection between physical activity and his/her health and well-being.

A lack of motivation may exist because teens do not see a connection between the physical activity they are being encouraged to do and their own health.

Parents may give examples how physical activity can be beneficial for many aspects of life, but try to challenge your teen to come up with their own reasons and how it can be useful for them.

Intellectual Stimulation Personal Log

Barriers and Challenges to Intellectual Stimulation

Over the next 2 months, if any **barriers or challenges** to utilizing **intellectual stimulation** in your parenting approaches emerge, please use the space below to write them. In addition, please note any **potential solutions** to these barriers and challenges. Try to think of examples of parenting in general (e.g., "I'm finding it difficult to see my teen's point of view, it's so different to my own") and also specific to physical activity (e.g., "My teen says that physical activity isn't for her, she prefers music and art, and she just can't see the benefits").

Post Workshop

Barriers & Challenges (Intellectual Stimulation): Parenting in general:

_____

_____

_____

_____

_____

Barriers & Challenges (Intellectual Stimulation): Physical activity specific:

_____

_____

Week 1-2

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 3-4

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 5-6

Date: _____

Barriers/challenges experienced: _____

_____

_____

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_____

Potential strategies for overcoming barrier(s): _____

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Individual Consideration: What can I do?

- Listens, displays empathy and compassion
- Recognizes individuals needs and abilities
- Displays genuine care and concern

Transformational leadership involves actions that promote the growth and development of those being led. Transformational leaders spend focused time on one-on-one communication and understand unique differences in others' physical and psychological needs. Individual consideration involves spending quality time with others and focuses on catching people doing things right rather than picking on the negatives.

As a parent, you can strive to display individual consideration by always showing a constant and genuine interest in all aspects of your child's life. This may be taking an interest in their peers, their schoolwork, their extra-curricular activities or even listen to their music and watch their television shows with them. Try not to be overly controlling, instead make sure that you are warm and respectful, and not judgmental! If you are warm and accepting in your parenting approaches, your teen will feel free to express their concerns to you. Open and supportive communication is vital:

Listen more than you speak –This is especially important when talking to teenagers, who may tell us more if we are silent long enough to give them the opportunity.

Make time to spend together – your adolescent may be busy with school, friends and other interests, but you can have a conversation with them over breakfast and dinner. Offer to take them to or pick them up from places - this will provide other opportunities for conversations.

Be a loving parent – adolescents often struggle with their changing sense of identity and need to feel loved. Tell them often that you love them. Celebrate their achievements, forgive their mistakes, listen to them when they have a problem and show interest in how they plan to solve it. Support them in their problem solving. Feeling included and special is vital for your adolescent's sense of positive self-esteem.

Focus on the positive - and work together to address the negative. If the situation escalates, tell your teen you can finish the conversation later after everyone has calmed down.

Have fun – make time for laughter. Good feelings help to build good rapport.

Individual Consideration and Physical Activity Promotion

Be sensitive and compassionate about your child's capabilities. If your child is overweight or lacks coordination, s/he may feel very self-conscious about exercising. So do whatever you can to help your teen to find an environment in which he/she will feel comfortable being active.

- Is there a place in your local community that is more likely to attract kids of different abilities and sizes?
- Ask your child about whether s/he likes to take part in group/team or individual activities. If appropriate, perhaps encourage your child to try some new activities (yoga, water aerobics, self-defense, outdoor activities and certain types of dance may work well).
- Make sure you provide a supportive atmosphere or that one is provided in the various activities your teen participates in.

Perhaps show support by becoming your teen's exercise partner or help him/her to find one! Exercise partners can help keep teens motivated by preventing boredom and making the time pass faster!

If you are struggling to be active with your teen, you can still SUPPORT his/her physical activity participation. Provide or arrange transport too and from sporting events, classes or other opportunities for physical activity. Also, help with the 'behind the scenes' work such as filling out registration forms, finding activities and paying the registration fees and watching them participate!

Individual Consideration Personal Log

Barriers and Challenges to Individual Consideration

Over the next 2 months, if any **barriers or challenges** to utilizing **individual consideration** in your parenting approaches emerge, please use the space below to write them. In addition, please note any **potential solutions** to these barriers and challenges. Try to think of examples of parenting in general (e.g., "It's hard to listen when my teen is telling me their problems and I feel angry and let down") and also specific to physical activity (e.g., "It's hard to support their activities because some things are so expensive").

Post Workshop

Barriers & Challenges (Individual Consideration): Parenting in general:

_____

_____

_____

_____

_____

Barriers & Challenges (Individual Consideration): Physical activity specific:

_____

_____

Week 1-2

Date: _____

Barriers/challenges experienced: _____

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_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 3-4

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

_____

_____

_____

_____

Week 5-6

Date: _____

Barriers/challenges experienced: _____

_____

_____

_____

_____

Potential strategies for overcoming barrier(s): _____

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Transformational Parenting and Physical Activity Promotion Goals

Please use this space to **set and monitor your goals** relating to transformational parenting and physical activity promotion with your child.

Remember the **SMART** goal setting principle, your goals should be:

Specific For example….. 'I will take part in physical activity with my child 2 times per week for at least 1 hour each time', rather than 'I will be a good role model'
Measurable How will you know when you have achieved this goal? It should be measurable so that you know how you are progressing.
Attainable Make sure your goals are achievable – just one or two goals set every week.
Realistic Remember, changes may take time so keep your goals realistic.
Timely These goals should be achievable in the one week time frame and also long-term.

Post Workshop

*These are your **long term** goals for the 6 week period*

Transformational Parenting in General:

1._____

_____

2._____

_____

3._____

_____

4._____

_____

Transformational Parenting for Physical Activity Promotion:

1._____

Weekly Goals

Use this space to monitor your goals: set weekly goals and at the end of the week note what went well and what do you need to improve (goal attainment). Try to revisit any barriers highlighted on the previous pages, plus (and this is important) any strategies to overcome those barriers to help make your goals more attainable.

Week 1:

Date: _____

Goal(s) for this week:_____
_____
_____
_____
_____

Comments on goal attainment (e.g., what went well/what needs improvement): _____
_____
_____
_____
_____
_____

Week 2:

Date: _____

Goal(s) for this week:_____
_____
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_____
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Comments on goal attainment (e.g., what went well/what needs improvement): _____
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_____
_____
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Week 3:

Date: _____

Goal(s) for this week:_____
_____
_____
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_____

Comments on goal attainment (e.g., what went well/what needs improvement): _____
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Week 4:

Date: _____

Goal(s) for this week:_____
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Comments on goal attainment (e.g., what went well/what needs improvement):_____
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Week 5:

Date: _____

Goal(s) for this week:_____
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Comments on goal attainment (e.g., what went well/what needs improvement): _____
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Week 6:

Date: _____

Goal(s) for this week:_____
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Comments on goal attainment (e.g., what went well/what needs improvement): _____
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_____
_____
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Post-Workshop Support

"Learning is defined as a change in behaviour. You haven't learned a thing until you can take action and use it."

Contact information: transformational.parenting.study@gmail.com

As part of the post-workshop support for parents, we will contact you via email once every two weeks to see how things are going.

This is a mechanism to provide you with support. As part of this process, we will provide you with feedback and also some new ideas or solutions to any difficulties or challenges you are facing in terms of using transformational parenting approaches with your child.

Below is a general guide for your email

To: transformational.parenting.study@gmail.com

What did you try over the last 2 weeks (relating to your original goals set in the workshop)?

What were some barriers/challenges you faced in terms of achieving your transformational parenting goals?

Appendix C.4: Manipulation Check

Workshop Questionnaire

A1. First three letters of your FIRST NAME: ___ ___ ___

A2. First three letters of your LAST NAME: ___ ___ ___

A3. Date of Birth: _____ (Day) ____ (Month) 19___ (Year)

Please circle one of the four components of ***transformational parenting*** that you feel is best representative of the parent's behaviour in each of these four scenarios. **If you are unsure or do not know the answer, leave the answer blank.**

Scenario #1:
An adolescent approaches her parent complaining that that she just doesn't enjoy sports and doesn't understand why she should have to do it when her friends don't have to. Instead of informing her that she needs to do it because it's healthy, the parent challenges their child to come up with a list of activities that they can try out and encourages them to come up with reasons why these activities are good for them.

(A) Intellectual Stimulation (C) Idealized Influence
(B) Inspirational Motivation (D) Individual Consideration

Scenario #2
An adolescent approaches his parent about a problem he is having with one of the physical activity goals that has been set for him. The parent listens to their concerns, and provides them with possible strategies that enable him to overcome his problems.

(A) Intellectual Stimulation (C) Idealized Influence
(B) Inspirational Motivation (D) Individual Consideration

Scenario #3
An adolescent is having difficulty in completing her goal of achieving 150 minutes of physical activity per week. The parent notices that her child is becoming increasingly frustrated because they are not mastering this task. The parent continues to encourage her, explains the basis for her confidence in the child's ability, and convincingly conveys the importance of "sticking with it".

(A) Intellectual Stimulation (C) Idealized Influence
(B) Inspirational Motivation (D) Individual Consideration

Scenario #4
In talking with his child about a forthcoming community fundraising road race, a parent explains to his child his owns values around such events by stating "your don't have to *race*, but as members of our community I think its really important that WE contribute together, and both take part".

(A) Intellectual Stimulation (C) Idealized Influence
(B) Inspirational Motivation (D) Individual Consideration

Appendix C.5: Process Evaluation Consent Form and Questionnaire

Psychology of Exercise, Health, and Physical Activity Lab
School of Human Kinetics
The University of British Columbia
210-6081 University Blvd, Vancouver, BC, V6T 1Z1

Process Evaluation - Consent Form

Project Title: Transformational Parenting Workshop - Evaluation

Principal Investigator: Mark R. Beauchamp, PhD
Assistant Professor
The University of British Columbia
Office Telephone: (604) 822 4864

Purpose of the Project: The overall purpose of this survey is to evaluate the 'Transformational Parenting Workshop' that you took part in June 2010. The research collected as part of this project will provide an important foundation for developing effective large-scale interventions across British Columbia designed to support parents in fostering healthy lifestyles with their children.

Participation: If you agree to participate in this phase of the research program, we would like to invite you to complete the survey on page 3. This survey will ask you about the workshop you attended, to gain some insights into the strengths and/or weaknesses of that workshop. There are no anticipated risks associated with this part of the research.

Confidentiality: Any information that you provide within this survey will be made anonymous, whereby no personal information that can identify you will be made available within any reports that may result from this research. All surveys will be kept in a locked cabinet in the office of the principal investigator.

Remuneration: No payment or remuneration will be made.

Your Rights: Your participation in this research is entirely voluntary and you may withdraw from the study at any time without having to give any reason for doing so and without experiencing any negative consequences. Alternatively, if you have any concerns about your rights or treatment as a research subject please contact the 'Research Subject Information Line' in the UBC Office of Research Services at (604) 822-8598 or if long distance email to RSIL@ors.ubc.ca.

Consent: I consent to take part in this research, designed to evaluate the Transformational Parenting Workshop. The study has been explained to me and I understand what is involved.

I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time without having to give any reason for doing so, and without experiencing any negative consequences.

By signing this form you have consented to participate in this study.

SIGNED.....

NAME IN BLOCK LETTERS.....

DATE.....

Could you tell me about the workshop that you took part in?

Could you describe the content of the session?

Could you describe the strengths/positive aspects of the session?

Could you describe any ways in which the workshop could be improved?

Could you tell me how useful that workshop was to you?

As a result of that workshop is there anything that you think you'll change in the way that you'll now parent your child?