

Family Influence On Physical Activity: Exploring The Nature of Reciprocal
Relationships

by

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ABSTRACT

The National Population Health Survey (CFLRI, 1998/99) indicates an alarming 58% of Canadian youth are physically inactive. As well, 59 % of Canadian women and 52 % of Canadian men are also physically inactive (CFLRI, 1998/99). Given the benefits of physical activity to health, it is essential to learn more about the nature of family influence on physical activity. This study was an exploration towards better understanding the reciprocal relationship between parents and children's physical activity behavior. Social Cognitive Theory provided a theoretical framework to investigate the nature of the family socialization process. Qualitative methods examined the relationship and influence between parents and children's choice to be physically active. Focus group discussions were conducted with children and parents to understand influences on their physical activity. Common themes were identified to gain insight into the social interaction between children and parents. A better understanding of reciprocal family influence on physical activity behavior will help foster interventions and new ideas to promote physical activity, thereby enhancing the quality of life for children and their parents.

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Table of Contents

Abstract	ii
Table of Contents	iii
List of Tables	v
List of Figures	vi
Acknowledgements.....	vii
Dedication	ix
Chapter 1	1
Introduction.....	1
Purpose of the Study	4
Research Questions.....	4
Assumptions.....	4
Limitations	4
Delimitations.....	5
Operational Definitions.....	6
Chapter 2	7
Review of Literature	7
Social Cognitive Theory	7
Parental Influence on Children's Physical Activity.....	13
Children's Reciprocal Influence on Parents' Physical Activity	16
Chapter 3	19
Methods.....	19
Site Selection Criteria	20
Participants and Setting.....	21
Data Collection	22
Inductive Analysis	24
Assessment of Data Quality.....	26
Background of the Researcher	27
Chapter 4.....	28
Results.....	28
Mastery Experience	30
Theme 1: Success in Doing Physical Activity.....	30
Theme 2: Personal Choice to be Physically Active.....	33
Vicarious Experience.....	36
Theme 3: Reciprocal Family Modeling.....	36
Theme 4: Family, Community, and Culture are Models Too!	42
Social Persuasion	44
Theme 5: Verbal Persuasion of Physical Activity	44
Theme 6: Asserting Physical Activity	50
Outcome Expectations	53
Theme 7: Health Benefits of Physical Activity	53
Theme 8: Enjoyment of Physical Activity.....	57
Theme 9: Social Benefits of Physical Activity.....	60

Chapter 5.....	63
Discussion.....	63
Social Cognitive Theory Construct: Mastery Experience	63
Social Cognitive Theory Construct: Vicarious Learning.....	65
Social Cognitive Theory Construct: Social Persuasion	68
Social Cognitive Theory Construct: Outcome Expectations	71
Conclusion and Recommendations for Further Research.....	75
References.....	78
Appendix A: Certificate of Approval	83
Appendix B: Participant Consent Forms and Letters	85
Appendix C: Profile of the Participants	91
Appendix D: Focus Group Interview Questions for Parents and Children	94
Partial Copyright License	97

List of Tables

Table 1. Themes Emerging From the Qualitative Data Analysis	29
Table 2. Theme 1: Success in Doing Physical Activity.....	32
Table 3. Theme 2: Personal Choice to be Physically Active.....	35
Table 4. Theme 3: Reciprocal Family Modeling.....	39
Table 5. Theme 4: Family, Community, and Culture Are Models Too!	43
Table 6. Theme 5: Verbal Persuasion of Physical Activity.....	47
Table 7. Theme 6: Asserting Physical Activity	52
Table 8. Theme 7: Health Benefits of Physical Activity	55
Table 9. Theme 8: Enjoyment of Physical Activity.....	59
Table 10. Theme 9: Social Benefits of Physical Activity.....	62
Table 11. Parent Profile	92
Table 12. Child Profile.....	93
Table 12. Focus Group Interview Questions For Parents	95
Table 13. Focus Group Interview Questions For Children.....	96

List of Figures

Figure 1. Bandura's (1986) Model of Triadic Reciprocity.....	7
Figure 2. Parent and Child Reciprocal Interactions (Taylor et al., 1994).....	10

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Dedication

This thesis is dedicated to my Mom and Dad, Grampa Zeb, and Grandma "D".

Thank you.

Chapter 1

Introduction

The benefits of regular physical activity for people of all ages have been well documented, however statistics show the majority of Canadians are inactive (CFLRI, 1998/99). Specifically, 59 % of Canadian women and 52 % of Canadian men are physically inactive (CFLRI, 1998/99). Further, 57 % of Canadian adults are insufficiently active for optimal health benefits, and have an increased risk of chronic disease and premature death (CFLRI, 2001). Health risks of inactivity include heart disease, high blood pressure, stroke, obesity, adult-onset diabetes, osteoporosis, and colon cancer (Health Canada, 2002). Canadian children denote similar alarming circumstances. The most recent statistics indicate 58 % of Canadian children (aged 12-19) are physically inactive, and estimates further suggest that as many as 84 % of Canadian children are not active enough to meet international guidelines for optimal growth and development (CFLRI, 1998/99). Boys have been found to be significantly more active than girls, with 52 % of boys and 64 % of girls considered to be physically inactive (CFLRI, 1998/99). Adding to this, from 1981 to 1996, the prevalence of obesity in Canadian children has more than doubled (Katzmarzyk, 2002). This potential health crisis cannot afford to be ignored.

Recognizing the psychological and physiological benefits of physical activity, researchers continue to explore why the majority of Canadians are physically inactive. Gaining a better understanding of how and why individuals are influenced to be physically active is an essential step towards assisting both children and their parents in

enhancing their quality of life. Current research has indicated that boys are influenced by more positively rewarding experiences that predispose them to physical activity and sport (Greendorfer, 2002). Furthermore, Brustad (1993) found “boys received more encouragement to be physically active than girls” (p.220). Parents play a key role in influencing their children’s physical activity. Limited research however has been conducted on the influence of children on their parents’ physical activity. With the desire to ultimately reduce Canadian children’s physical inactivity rates, this present study explored the nature of reciprocal family influence on physical activity.

The identity of the family unit has changed considerably in today’s society, yet it is still recognized as “the basic socialization system and the system that interacts with and predetermines the influence of other agencies and agents” (McPherson, 1986, p.123). Recognizing the family has an influential role, Health Canada has endorsed a family physical activity guide to promote healthy active living. The guide encourages both children and parents to work collectively to increase their physical activity by at least 30 minutes a day, and reduce “non active” time spent on television, internet, and computer games (Health Canada, 2002). The impact of the family physical activity guide on physical activity levels of Canadian families has yet to be examined.

Using aspects of a family intervention as a means to increase physical activity has begun to receive attention by researchers. For example, the Daughters and Mothers Exercising Together (DAMET) project used a family intervention for mothers and daughters to impact physical activity (Ransdell, Dratt, Kennedy, O’Neill, & DeVoe, 2001). Initially this project began in Colorado, and due to overwhelming success was replicated in Utah (Ransdell, Oakland, & Taylor, 2003b). Grounded in Social Cognitive

Theory (Bandura, 1986), these two studies designed family interventions to promote physical activity. Results from the programs proved successful to increase “physical activity and improve physical and psychological health” of both mothers and daughters (Ransdell et al., 2003b, p.44). The above examples attest to a new focus in socialization research. Historically, studies have examined cause/effect relationships on sport participation at elite levels (Greendorfer, 2002). Although research suggests the family plays a primary role of socializing children into physical activity, Lewko and Greendorfer (1982) insisted, “the understanding of the processes inherent in this assumption has not been greatly enhanced” (p.288). There is a need for a deeper understanding of the social phenomena of high inactivity rates amongst the Canadian population. Typically, studies have ignored researching the nature of physical activity influences and “the lived experience of socializees as well as socializing agents has not been adequately captured” (Greendorfer, p. 390). For these reasons, a qualitative approach enabled the researcher to study in depth and explore the mechanisms of the reciprocal relationship between parents and children. As Patton (1990) indicated, “approaching fieldwork without being constrained by predetermined categories of analysis contributes to the depth, openness, and detail of qualitative inquiry” (p.13). In particular, this present study explored the personal experiences and perceptions of parents’ and children’s influence on physical activity. Social Cognitive Theory (Bandura, 1986) was used as a framework to explore linkages between parents and their children’s physical activity. To date, there is virtually no research that has explored the reciprocal relationship between parents and children’s influence on physical activity (Greendorfer). This qualitative study will make a contribution to better understanding the influence of family on physical activity.

Purpose of the Study

Recognizing the psychological and physiological benefits of physical activity, researchers continue the quest to better understand why the majority of Canadian youth are physically inactive. This potential health crisis cannot afford to be ignored. Studying the socialization process between parents and children will give insight into the reciprocal relationship and its influence on physical activity. The purpose of this study was to explore the reciprocal relationship between parents' and children's physical activity. It explored an area that has not been substantially explained, nor fully understood.

Research Questions

The following research questions will be addressed in this study:

1. What is the nature of parental influence on children's physical activity?
2. What is the nature of children's influence on parents' physical activity?
3. Having explored the reciprocal relationship between children and their parents, are these mechanisms consistent with the proposed Social Cognitive Theory constructs?

Assumptions

1. There is a reciprocal relationship between children and their parents.

Limitations

1. The participants' responses have limited generalization to a larger population.
2. A more dominant or opinionated member may have biased the results of the focus group.
3. The responses of the participants are not independent of each other.

4. The researcher may have biased the results or influenced the interpretation of some of the participant's responses.

Delimitations

1. The study was limited to five focus groups with children, and four focus groups and one in-depth interview with parents.
2. The study was limited to child participants of Action Schools! BC and parents/legal guardians of children participating in Action Schools! BC.

Operational Definitions

Child: Refers to the focus group participant who is currently between the ages of 10-12 years old.

Focus Group: A qualitative research technique that interviews a small group of people on a specific topic (Thomas & Nelson, 2001).

Parent: Refers to the focus group participant who is a biological parent or legal guardian of a child.

Purposeful Sampling: Refers to purposefully selecting participants “that will best help the researcher understand the problem and the research questions” (Creswell, 2003, p.185).

Reciprocal Interactions: Refers to mutual influences between a child and his/her parents.

Socialization: As defined by Greendorfer (2002), socialization is a “social influence process mediated by individuals, groups, social structures, and cultural practices” (p.380).

Social Cognitive Theory: A theory proposed by Bandura (1986) that asserts an individual’s behavior, cognition, and environmental influences all interact as determinants of each other.

Chapter 2

Review of Literature

The following review of literature has been divided into three sections. First, a general overview of Bandura's (1986) Social Cognitive Theory will include the main constructs of the theory, as well as highlight key publications. A description of current literature on parental influences on physical activity is indicated in the second section. Finally, literature regarding children's influence on their parents' physical activity will be illustrated.

Social Cognitive Theory

Bandura's Social Cognitive Theory (1986) explains human functioning in terms of a triadic reciprocal model. An individual's behavior, cognition, and environmental influences all interact as determinants of each other. Figure 1 illustrates the influences of the three determinants, and emphasizes that this relationship is bidirectional. Health educators and behavioral scientists have used Social Cognitive Theory to not only explain "how people acquire and maintain certain behavioral patterns but also provides the basis for intervention strategies" (Baranowski, Perry, & Parcel, 2001, p.153).

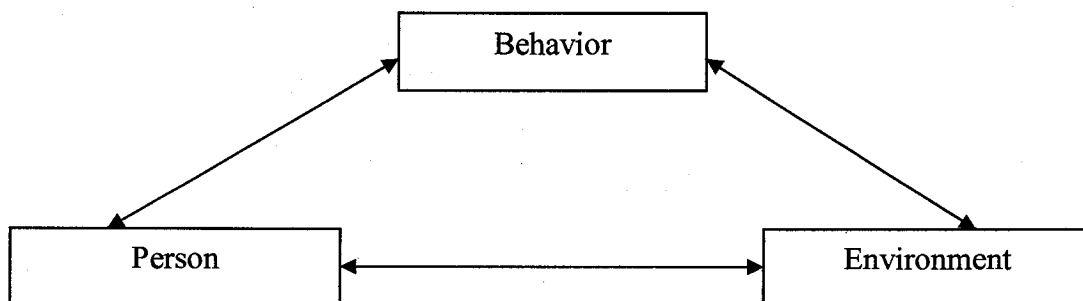


Figure 1. Bandura's (1986) Model of Triadic Reciprocity.

Bandura's development of Social Cognitive Theory is derived from the initial works of many scholars. Historically, Bandura felt that conditioning theories did not adequately address the influence of social models on behavior, and thus chose to concentrate on animal learning and human behaviour in single person situations. The following key publications have influenced Bandura and his research towards developing Social Cognitive Theory as it is known today.

The emergence of Miller and Dollard's (1941) studies on modeling processes lead them to introduce what they called Social Learning Theory. This theory explained the imitation of behavior among animals and humans. Original Social Learning Theory concepts were also based on Hull's (1943) belief that an individual's behavior occurs from internal states called drives. Hull maintained that both animals and humans acquired drives, or physiological processes that motivate behavior. Social learning "thereby attends to other's responses when motivated by an acquired drive" (Baranowski, et al., 2001, p. 154).

Rotter (1954) first applied these early principles of Social Learning Theory to clinical psychology, and contended that individuals learn or are conditioned operantly by their history of positive or negative reinforcements. From this, an individual develops an internal or external locus of control over their reaction to life events. Rotter emphasized the importance of context of behavior, that is, how individuals view the situation affects reinforcement value and expectations. Bandura included parts of this concept in Social Cognitive Theory, then expanded it further to include self-efficacy and self-regulatory processes.

In 1962, Bandura published an article on social learning and imitation. In contrast to operant learning principles, Bandura and Walters (1964) proposed that children did not need to be rewarded directly, but that learning could occur by watching other children. Thus, a child is able to learn through observation (modeling) and witnessing the rewards that these other children receive (vicarious reinforcements). In 1977, Bandura published an article refuting traditional learning principles and introduced the cognitive concept of self-efficacy. He proposed his concept of reciprocal determinism, in which environment, person, and behavior continually interact. Bandura (1986) then renamed Social Learning Theory as Social Cognitive Theory.

In this study, Social Cognitive Theory was the theoretical framework used to better understand the mechanisms of family influence on physical activity. As proposed by Taylor, Baranowski, and Sallis (1994), Social Cognitive Theory can be used to explain the family perspective when Bandura's (1986) model of triadic reciprocity is expanded from one individual to two or more people. Figure 2, as suggested by Taylor et al. (1994) illustrates the reciprocal interactions between the shared environment, parent behaviors and cognition, as well as child behaviors and cognition. An important consideration of this model is a child's behavior can affect a parent's behavior in the same manner that a parent can influence a child's behavior. Bandura (1986) defined this relationship as mutual action between causal forces.

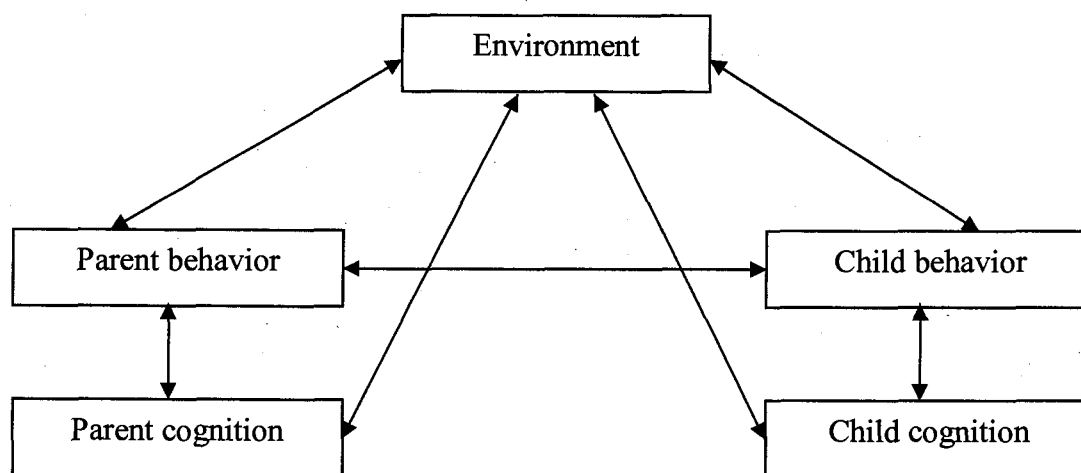


Figure 2. Parent and Child Reciprocal Interactions (Taylor et al., 1994).

Both the reciprocal determinism model (Bandura, 1986) and the family perspective model (Taylor et al., 1994) address cognitive, behavioral, and environmental factors as determinants of human functioning. In this study, the constructs of cognitive and behavioral influences will be explored within the family environment.

At the core of Bandura's (1986) Social Cognitive Theory, are self-efficacy beliefs. He defines self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p.391). The value a person places on an outcome, referred to by Bandura as outcome expectations, may also predict an individual's behavior. Outcomes on their own however, do not do much in predicting behavior, as "the types of outcomes people anticipate depend largely on their judgements of how well they will be able to perform in given situations" (Bandura, p.392).

Bandura (1986) maintains that sources of self-efficacy include mastery experience, vicarious experience, social persuasion, and physiological states. In trying to

better understand the reciprocal relationship between parents and children's physical activity, focus group questions in this study were designed to explore if these sources can explain the nature of family influence. Mastery experience, such as the parent's or child's feelings regarding their success of doing physical activity was addressed. Bandura suggests that success is "the most influential source of efficacy information because it is based on authentic mastery experiences" (p.399).

Bandura (1986) contends that the influence of seeing other people perform successfully can also raise an individual's self-efficacy. He refers to this as vicarious experience or observational learning. Bandura considered observational learning as "one of the most powerful means of transmitting values, attitudes, and patterns of thought and behavior" (p.47). Observational learning occurs when an observer exhibits new skills that prior to modeling would not have been displayed (Bandura). Models are influential in "activating, channeling, and supporting behavior of others" (Bandura, p.50). Social Cognitive Theory states that observing an appropriate model can weaken inhibitions. For example, if an observer recognizes the model has no adverse effects from performing the behavior, they too may be more motivated to display the same behavior (Bandura). Conversely, if an observer views negative consequences resulting from the model's behavior, they may be less motivated and inhibited in their response. Focus group questions in this study will explore parents as a model influencing their child's physical activity, as well as a child as a model influencing their parent's physical activity behavior.

Bandura (1986) believes that social persuasion, including verbal persuasion, is another influential source in increasing self-efficacy. He states "people who are

persuaded verbally that they possess the capabilities to master given tasks are likely to mobilize greater sustained effort than if they harbor self-doubts and dwell on personal deficiencies when difficulties arise” (p.400). In this study, focus group questions will explore if verbal persuasion by both parents and children is an influence on family physical activity. It has not been established if a child’s verbal persuasion towards their parents is a mechanism powerful enough to change their parent’s physical activity behavior.

Finally, Bandura (1986) believes that physiological states are sources of information for individual’s to judge their abilities. The confines of this study will not address this source of self-efficacy.

This study utilized Social Cognitive Theory as a framework to explore the reciprocal relationship between parents and children’s physical activity. Recognizing that behavior is a bidirectional influence process, the nature of the family socialization process was analyzed. Given that statistics indicate the majority of the Canadian population is physically inactive, positive modeling within a family has not been realized (Taylor et al., 1994). Although current research has established a relationship between parents’ and children’s physical activity, the interactions of this reciprocal relationship have not been adequately explored. Furthermore, it is not known if the mechanisms of the reciprocal relationship are consistent with the suggested constructs of Bandura’s reciprocal determinism model, or the family perspective model as proposed by Taylor et al. (1994).

To date, Social Cognitive Theory continues to be an important concept for practitioners and researchers to better understand health behavior and to plan behavioral

intervention strategies. Recent successful interventions applying Social Cognitive Theory to improve children's health include The Child and Adolescent Trial for Cardio Vascular Health (CATCH) (McKenzie, Nader, Strikmiller et al., 1996) as well as the Sports, Play, and Active Recreation for Kids (SPARK) program (Sallis et al., 1996). Bandura's publications continue to postulate new concepts to augment his initial explanation of human behavior.

Parental Influences On Children's Physical Activity Behavior

Conceptually, Social Cognitive Theory implies that parents are important role models for children. The family and home environment are core influences on the development of a child's cognition and behaviors. Although the family does not exist in isolation from other influences, it is important to understand how parents and children's beliefs are related and interact prior to planning intervention strategies (Kimiecik, Horn, & Shurin, 1996). Recent studies have attempted to better understand the nature of parental influence on children's physical activity. As indicated by Prochaska, Rodgers, and Sallis (2002), inconsistent findings however have made it difficult to determine the extent of this influence.

Using a meta-analysis technique, Carron, Hausenblas, and Mack (1996) assessed the impact of social influence (important others, family, class leaders, coexercisers, social cohesion, and task cohesion) on exercise involvement. Overall, Carron et al. concluded that social influence does have a positive influence on exercise behavior, cognitions about exercise, and attitudes about exercise. Specifically, the researchers found that the effect of family and important others on affect associated with exercise involvement was in the medium to large range, having higher impact than intention to exercise or exercise

adherence (Carron et al.). Carron and his colleagues postulated this effect was not surprising, likely because the family's positive endorsement of exercise enabled the observer to prejudge the exercise behavior as favorable. Likewise, in another general overview of family determinants of childhood physical activity, Taylor et al. (1994) determined parents were viewed as either a facilitator or hindrance of physical activity. Factors such as limited resources, economic hardships, lack of transportation, availability of facilities, as well as culture and ethnic background were associated with differences in children's physical activity levels (Taylor et al.). Anderssen and Wold's (1992) study found similar results, indicating parental support of physical activity has a large impact on the reported physical activity levels of adolescents. Direct support from parents related stronger than any other measured item of predicted leisure-time physical activity. Based on the results, Anderssen and Wold suggested that children rely on their parents to organize tasks such as transportation to a training session. More recently, a study by Welk, Wood, and Morss (2003) found that boys perceived greater parental facilitation than girls, although for both sexes it was an important predictor of physical activity involvement and interest.

In a study with children between the ages of 11 to 15, Kimiecik et al. (1996) revealed that variation in children's beliefs and cognitions could be explained by their perception of their parents' cognitions and beliefs regarding physical activity. However, the authors reported that children's perception of their parents' beliefs and values and the children's reported moderate-to-vigorous physical activity participation were not significant (Kimiecik et al.). Contrary, in child participants from lower socio-economic levels, Brustad (1996) found a significant relationship between children's perceptions of

parents' physical activity, and their own physical activity levels. As well, Brustad identified perceived parental enjoyment attributed more variability to girl's attraction to physical activity, even more so than parental encouragement.

The "Daughters and Mothers Exercising Together (DAMET)" study was an intervention program including aspects of Social Cognitive Theory (Ransdell et al., 2003a). Mindful that both girls and women are at risk for physical inactivity, the researchers initiated a mother/daughter project to enhance psychological and physiological health (Ransdell et al., 2001). Qualitative results from the initial pilot project in Utah indicated the 12 weeks intervention provided a safe environment for both mother and daughter to attempt new activities and "valuable opportunities for mother-daughter bonding and sharing of feelings" (Ransdell et al., 2001, p.110). Subsequent projects reported success was attributed to having mothers and daughters participate together in physical activities (Ransdell, Taylor, Oakland, Schmidt, Moyer-Mileur, & Schultz, 2003c). Focus group discussions prior to the program enabled the researchers to plan the project according to the mothers and daughters' feedback and requests. The participants indicated that these early focus group discussions made them feel they had ownership of the program (Ransdell et al., 2003c). A 12-week university-and-home-based program identified "most mothers and daughters reported feeling increased support for physical activity and improved mother-daughter relations" (Ransdell et al., 2003a, p.24).

Although many studies have revealed parental influence on children's reported physical activity, others argue against these findings. In a comprehensive review of correlates of physical activity, Sallis, Prochaska, and Taylor (2000) disputed that results

are too inconsistent to confirm the influence of parents on children's physical activity. Of the 29 studies included in the analysis, only 38% showed positive association between parental physical activity and children's physical activity levels (Sallis et al.). The authors were surprised that social correlates of children's physical activity were inconsistent, adding "there may be some situations in which parent modeling is an important influence, but these situations have not been identified" (Sallis et al., p.971). Sallis et al. suggested that this low positive association might be attributed to differences in measurement and sample. Reasons for this included sample size, sample characteristics, difficulty measuring physical activity in children, and difference of analysis strategies (Sallis et al.). Prochaska et al. (2002) suggested methodological influences were reasons for inconsistent associations of parental influence on adolescent physical activity. Although social support and adolescent physical activity were correlates of parental and peer sources, they were inconsistent when different modes of physical activity assessment were utilized (Prochaska et al.). Social cognitive research emphasizes the importance of modeling, however difficulty in measurement and design make interpretation of parental influence yet to be fully understood (Welk et al., 2003). All of these researchers suggest that further study is warranted to establish the nature and different levels of parental influence.

Children's Reciprocal Influence on Parents' Physical Activity

Although Bandura (1986) suggested that socialization is a bidirectional process between the socializee and the socializing agent, the notion of reciprocity between parents and children with relation to physical activity has not been fully explored

(Hasbrook, 1982). Empirical studies have traditionally emphasized the child as the role learner and the parent as the socializing agent (Snyder & Purdy, 1982). Primarily correlational studies continue to highlight that “socialization is unidirectional, from adults to children” (Snyder & Purdy, p.263). If parents are facilitators of their child’s physical activity, is this role influential in encouraging them to consequently participate as well?

To date, only one study has examined children’s influence on parental sport participation. Through qualitative interpretation, Snyder and Purdy (1982) conducted in-depth interviews with parents and found that parental interest in sport increased because of their child’s participation. More than 80 % of the mothers in this study stated they were more interested in sport because of their children’s participation. The parents’ interest was manifested as they became involved as spectators, coaches, and fundraisers. Parents also reported experiencing attitudinal change (Snyder & Purdy). Snyder and Purdy concluded “this bidirectional and mutual effect constitutes a reciprocal sport socialization process for both children and parents” (p.262). Their findings are important because they found parents attitudes and behaviors changed as a result of their children’s participation, yet there was no indication if the parents became active sport participants because of reciprocal effects. Virtually no other research has studied reciprocal determinism between children and parents’ physical activity. As well, Snyder and Purdy focused on socialization into sport, and not the behavior control of physical activity. Brustad (1993) believed that research has not “yet crossed over to examine how such influences might affect children’s physical activity in other settings” (p.211).

Clearly there is a need for research to assess the nature of the socialization process between children and parents and its influence on physical activity. Animal behavior

research has established a reciprocal relationship between offspring and parents (Bell, 1977). Granted that human behavior is unique, this phenomenon provides interesting evidence that needs to be explored in human populations. Bandura's model of triadic reciprocity provides a framework to better understand parent and child influences.

Chapter 3

Methods

The purpose of this study was to explore the reciprocal relationship between parents' and children's physical activity. Chapter three illustrates the methodology of the study which seeks to better understand the following three questions: a) what is the nature of parental influence on children's physical activity? b) what is the nature of children's influence on parent's physical activity? and c) having explored the reciprocal relationship between children and their parents, are these mechanisms consistent with the Social Cognitive Theory constructs?

After a thorough review of the literature, it was determined that a qualitative methodology would be the most suitable approach to exploring the research questions. Not only is there limited research that has examined the reciprocal relationship between parents' and children's physical activity, but even fewer studies have explored qualitatively the nature of this phenomenon. A series of focus group interviews with parents and children was the technique chosen to effectively gather this information and develop a better understanding of the topic.

Chapter three has been divided into the following six sections. A description of how the study's site was selected, characteristics of the participants, method of data collection and analysis, a description of data quality, and background of the researcher will be explained.

Site Selection Criteria

This study was part of a larger study entitled Action Schools! BC. Action Schools! BC is a best practices physical activity model that is currently being piloted in ten schools in Vancouver and Richmond School Districts. Its primary focus is to support elementary schools in developing individualized action plans to promote healthy living. The Action Schools! BC project obtained ethical approval from Richmond and Vancouver School Boards, the University of British Columbia Clinical and Behavioural Sciences Research Ethics Board and the Vancouver Coastal Health Authority Ethics Board. The Action Schools! BC team initially recruited participation by presenting the project at a board-wide principal's meeting, individually approaching the principals, and finally, presenting the project to the students in the classroom, as well as sending a detailed letter home to their parents. The parents were asked to sign consent forms and complete Health History Questionnaires for their child. Ethical approval for this portion of the research has been obtained from the University of Victoria Human Research Ethics Committee (see Appendix A).

The research questions were embedded within the project's arranged focus group sessions. Initially, all seven of the pilot schools were contacted to see if there would be interest from the parents and the children to discuss Action Schools! BC and family influence on physical activity. Principals at five of the schools expressed interest and were provided invitation letters and a copy of the focus group questions to distribute to interested parents and children at each school. The Principals selected the parents and children whom they felt would be interested and available for participating in the study. Examples of the invitation letters can be found in Appendix B. The Action Schools! BC

pilot project has representation from over eight different ethnic backgrounds, and a variety of socio-economic levels. As Brustad (1996) indicated, socialization research has an under representation of participants from lower socio-economic levels. This study therefore generated dialogue from participants that traditionally have not been heard. Furthermore, the National Population Health Survey (1998/1999) indicated that the proportion of Canadians with lower income levels is more physically inactive versus the proportion that has higher income levels. A profile of the participants can be found in Appendix C.

Participants and Setting

Purposive selection of the participants was employed. The child participants were required to be part of the Action Schools! BC pilot project. As well, the parent, either male or female, was required to be a biological parent or legal guardian of a child participating in Action Schools! BC.

A total of 26 male (n=12) and female (n=14) grade 5 through grade 7 students were interviewed at five of the Action Schools! BC pilot schools. Two of these schools were located in Richmond, British Columbia, while the other three schools were located on the east side of Vancouver, British Columbia. With signed parental consent, the focus group discussions were conducted during the students' lunch hour in the school library. This location enabled the children to converse in an environment that was quiet, comfortable and non-threatening. Location of a focus group "has psychological implications" (p.57) and the familiar environment helped the focus group seem more

attractive (Stewart & Shamdasani, 1990). The students were provided with a complementary healthy lunch at the start of the focus group.

Further, a total of 16 parents (n=2 male and n=14 female) volunteered to participate in a focus group session. A total of four focus groups and one in-depth interview were conducted with parents. The in-depth interview was conducted as only one parent from a particular school attended the planned focus group. Although other parents from this school had agreed to participate, unexpectedly, some of the parents did not attend the focus group. The focus groups were conducted in the library at each of the schools, to provide a location which was familiar to all the parents. Travel time and proximity to home were also considerations (Stewart and Shamdasani, 1990). All of the sessions occurred during the school lunch hour to accommodate the parents' work and family commitments. A healthy lunch was provided for all of the parents at the start of the focus group. Appendix B provides an example of the child consent and parental consent forms. The researcher made herself available to address any questions or concerns from the parents or children.

Data Collection

Focus group interviews were the method of data collection used in this study. Focus group interviews are a qualitative research technique that interviews a small group of people on a specific topic (Thomas & Nelson, 2001). The focus group should not be more than 10 people, as larger groups have a tendency for the group to break apart and for individuals to be distracted by the people next to them (Krueger & Casey, 1993). This approach assisted the researcher to understand the essence of the topic, and to

“provide deeper understanding of social phenomena” (Silverman, 2000, p.8). Under the direction of a moderator, focused discussion helps provide understanding of the selected topic of interest (Krueger & Casey). A focus group provides a comfortable environment, where all the participants’ opinions can feel valued and important. The qualitative data gathered from this methodology provided the researcher with a rich dialogue of the responses to the focus group questions.

The Principals at each of the five schools collected the consent forms from the interested parents and children and established with the researcher an appropriate day to conduct the focus group. On the day of the focus group I traveled to the school and verified the consent forms with the Principal. It was ensured the children had parental consent to participate in the focus group session. All of the focus groups were conducted in the school library at each of the five schools. Prior to the start of the focus group, I arranged a small grouping of chairs and tables within the library in an area that would be least distracting for the school librarian. I also checked the microphone and tape recorder and prepared the tape for recording. When the participants entered the library, I introduced myself, reviewed the purpose of the focus group, and addressed participants’ questions. The participants were then encouraged to help themselves to the complementary lunch. Once settled, the participants were given a number written on an adhesive sticker that they placed on their shirt. I ensured I could see the number from my position while I was seated at the table. Each participant received an individual number so that I could associate the recorded comments to the corresponding number of each participant. Numbering the participants, rather than referring to them by name, enabled me to ensure anonymity of the participants. I verified with the participants that they all

agreed to have the focus group tape recorded. Participants were provided with an additional copy of the focus group questions. Appendix D provides examples of the questions that were used in the study for the participant groupings. The questions were designed to explore Bandura's (1986) concept of reciprocal determinism. Specifically, focus group questions addressed both behavioral and cognitive constructs, such as self efficacy, modeling, verbal persuasion, mastery experience, and outcome expectations. As suggested by Stewart and Shamdasani (1990), there were less than a dozen probes used by the researcher. General questions were first asked, and more specific questions followed.

As the participants provided answers to the focus group questions, I recorded field notes while they were speaking. All of the participants were cognizant of taking turns while speaking and often the children would raise their hand to indicate they wanted to comment on a focus group question. Due to the restriction of conducting the focus groups during the scheduled school lunch, each focus group interview was limited to approximately one hour. I was cognizant of the duration of the focus group, as other students and teachers had scheduled use of the library following the focus group session. Although time was limited, all eight of the focus group questions were addressed at each of the focus group sessions.

Inductive Analysis

The following steps were involved in the data analysis process. Upon returning to Victoria, I immediately transcribed the recorded tapes verbatim to ensure trustworthiness of the data. While transcribing, I confirmed with the field notes to verify that every

comment was correctly associated with the appropriate participant's number. I did not mail the transcripts to the participants for verification. The Microsoft Word transcripts were then imported into QSR NVivo 2.0 qualitative software. The program enabled me to search for themes, cross themes and relate them to other nodes, and create a template for organizing data (Creswell, 1998). The child and parent focus group transcripts were imported and organized as two independent projects. For each project, the data was initially section coded into eight sections, one section for every question posed in the focus group sessions. Common themes, referred to as "nodes" in QSR NVivo, were established based on the eight questions. A Microsoft Word table was then created to organize the themes that emerged under the eight sections. This table assisted me to visually determine if common themes and content emerged between questions and reoccurred throughout the data. The researcher then reexamined the two projects within QSR NVivo and coded the data based on the common themes or "nodes" that were identified from the initial section coding. This process reduced the overall number of common and repeat themes. Common themes were then organized in a Microsoft Word table according to Bandura's (1986) Social Cognitive Theory constructs. All of the data fit appropriately under one of the four constructs, and nothing was discarded. For each of the constructs, broad theme names were identified and the participants' comments were grouped accordingly. A thorough description of these themes can be found in the following sections. Content analysis allowed the data from the focus groups to be analyzed and examined for meaning (Stewart & Shamdasani, 1990).

Assessment of Data Quality

Assessment of data quality is essential to validating the findings of the research. In the qualitative paradigm, validity is derived from the accuracy of the research, the participant, and the readers of the account (Creswell, 2003). Indeed, “the intensive firsthand presence of the researcher is the strongest support for validity in the data-gathering process” (Thomas & Nelson, 2001, p.338). In the present study, the researcher employed several techniques to ensure the accuracy and “trustworthiness” of the findings. As suggested by Marshall & Rossmann (1999), the following four criteria to assess data quality were followed.

Credibility.

The goal of applying this construct is to assure that the research topic will be accurately identified and described (Marshall & Rossmann, 1999). The following verification strategies suggested by Creswell (1998) were used to promote credibility in this study:

1. Triangulation of information from multiple and different sources (five focus groups with children, four focus groups and one in-depth interview with parents.)
2. Peer review and debriefing-discussions with two experienced researchers completed an external check to clarify interpretations and keep the researcher honest.
3. Providing rich, thick description to enable readers to replicate and transfer the information to another setting.
4. The researcher revised and reworked themes until all the cases fit.

Transferability.

Generalizability or transferability of the topic will be limited to the participants from which the study researched (Marshall & Rossmann, 1999). Although the nature of qualitative research limits transferability to other populations, a thorough description of participants, setting, and methods were provided to compare with other studies and samples. Recommendations for future research were also provided.

Dependability.

Qualitative inquiry assumes the “social world is always changing” throughout the research process (Marshall & Rossmann, 1999). The researcher accounted for these changes by continuously challenging her understanding of the environment and regularly consulting with more experienced researchers to maintain dependability of the inquiry.

Confirmability.

The researcher must provide control for any bias that potentially may shape the study. The researcher employed techniques such as rechecking the data and peer reviewing with experienced researchers to maintain confirmability of this study. The findings and interpretations of the data were also supported by the constructs identified in Bandura’s (1986) Social Cognitive Theory.

Background of the Researcher

As indicated by Patton (1990), “in qualitative inquiry the researcher is the instrument” (p.14) and thus validity is largely based on the skills and experience of the researcher. Fieldwork experience, a central activity of naturalistic inquiry, enables the researcher to have direct and personal contact with the participants (Patton). The nature

of qualitative research and its emphasis of having the researcher put oneself in others positions and experience firsthand a phenomena, appealed to me. As a Physical Education teacher, I have a keen interest in improving the health and well-being of my students. As well, I recognize the importance of collectively working with the entire school community, such as parents and families, to facilitate change in the lives of today's youth. I realize however, that developing a sense of community within the framework of today's society presents a challenge. I believe that both parents and children are equal contributors in this process, and should play a role in supporting each other. As a research assistant with the Action Schools! BC Process Evaluation, I have experienced first hand a framework in action that recognizes all facets of a community working together to create change. Furthermore, I acknowledge that my positive experiences as a physically active child through to adulthood, contributed to my firm beliefs in the benefits of physical activity. In particular, I recognize that the support of my family was instrumental in developing these strong values.

Chapter 4

Results

Chapter 4 has been divided according to Bandura's (1986) Social Cognitive Theory Constructs: Mastery Experience, Vicarious Learning, Social Persuasion and Outcome Expectations. These four constructs formed the framework and design of the questions explored in both the parent and children focus group interviews. As such, the themes that emerged from the qualitative data analysis have been organized accordingly. Table 1 provides an overview of the nine emerging themes.

Table 1.

Themes Emerging From the Qualitative Data Analysis

Social Cognitive Theory Construct	Theme
Mastery Experience	Theme 1: Success in Doing Physical Activity
	Theme 2: Personal Choice to be Physically Active
Vicarious Learning	Theme 3: Reciprocal Family Modeling
	Theme 4: Family, Community, and Culture are Models Too!
Social Persuasion	Theme 5: Verbal Persuasion of Physical Activity
	Theme 6: Asserting Physical Activity
Outcome Expectations	Theme 7: Health Benefits of Physical Activity
	Theme 8: Enjoyment of Physical Activity
	Theme 9: Social Benefits of Physical Activity

Common themes emerged from the analysis of the ten data sources including five focus group interviews with children, four focus group interviews with parents, and a single one-on-one interview with a parent. As per the aforementioned Social Cognitive Theory Constructs, these themes will be presented in four sections.

Social Cognitive Theory Construct: Mastery Experience

Bandura (1986) asserts “enactive attainments provide the most influential source of efficacy information because it is based on authentic mastery experiences” (p. 399). Through repeated successful experiences, a parent or a child develops a strong sense of self-efficacy that potentially could be generalized to other situations and activities (Bandura, 1986).

Theme 1: Success in Doing Physical Activity.

I think for sports, you do have to feel like you are good at it in order to participate...
(Parent)

I feel good about it because I know that I can do my best and that if I do start getting tired then I just know that I need to keep trying.
(Child)

These two quotes exemplify the theme of Success in Doing Physical Activity. Generally when asked how they felt about physical activity, the parents and children associated success with positive mastery experiences. For example, a parent reflected that she always hated physical activity when she was a child because she was not good at it and was uncoordinated. Contrary, a child indicated he liked physical activity because he was good at it and the high grades he earned in Physical Education class were a symbol of his success. Table 2 provides a sample of the comments that encompass

Theme 1- Success in Doing Physical Activity. The headings are organized according to whether the comments were made by parents or children.

Table 2.

Theme 1: Success in Doing Physical Activity

Parents	Children
<ul style="list-style-type: none"> • For me I have always enjoyed physical activity ever since a young girl. I can remember always, remember when we had the gold, silver, bronze. I always strived for that gold one or the excellence. • You know what, as a little girl I hated PE. I was not good at it. I was horrible! Cause I wasn't really coordinated. I didn't like it. My parents weren't really into physical activity and it wasn't until I was in university and I joined an aerobics class where the instructor was really enthusiastic and I realized how much better I felt after I had done it for a month or so that I got more into physical fitness and staying fit. 	<ul style="list-style-type: none"> • I like physical activity a lot because like I am pretty good at it. I get like an A in it all the time. • I only like long jump and high jump cause that is the only things that I can do, that I can do good. • Yah, like I am okay playing basketball and that. It keeps me active and all that, but like say I suddenly started playing like this other kind of sport I'm just kind of weird.

Theme 2: Personal Choice To Be Physically Active.

I'd say for me it would probably be me.
(Parent)

It really depends on the person's choice. The kind of physical activity. Like say someone liked soccer and they were really good at soccer and that keeps them very physically active. But then say they suddenly just start playing basketball, like forcing or some sort, they wouldn't do so good, and they wouldn't even try I guess. You could put it in a way. So it is like the person's choice.
(Child)

These two quotes illustrate the theme of Personal Choice to be Physically Active.

Parents and children commented on the importance of having the personal choice to be physically active. If they had the choice to do a certain physical activity, this was associated with enjoyment and a positive mastery experience. Therefore, having the choice to be physically active and choosing the particular physical activity became a potential source of self-efficacy.

Numerous parents and children commented that their personal motivation and willingness to do physical activity influenced their physical activity choices and behavior. Interestingly, it was only the parents that commented on barriers preventing them from achieving their desired physical activity levels. The issue of finding the time within their busy schedules and lives was a predominate reason influencing the parents' personal choice to be physically active. For example, one parent said "I think for me it is more time, trying to fit in the time." Two parents also indicated that money was another factor dictating their choice of physical activities. A parent commented that "Money does too for me. Number one. It is a big issue. We like to ski but we can't afford it all the time.

So we pick sports that aren't as costly. Like my one daughter was in hockey and we found that that was really expensive.”

Table 3 organizes examples of the theme Personal Choice To Be Physically Active according to comments from either parents or children.

Table 3.

Theme 2: Personal Choice to be Physically Active

Parents	Children
<ul style="list-style-type: none"> • I guess basically myself for me. I just like to try and stay in shape. • And what I am willing to do. • My own motivation. • I'd say for me it would probably be me. • I have been thinking about this question since I first saw it an um I have to say that I think I influence my own physical activity. • And I don't go to the gym because it is expensive. • I think for me it is more the time, trying to fit in the time. • Time is an issue. If I have time to do something, I do. • I would like to say my biggest hurdle is time. Working full time and having kids. It is finding the time to do it when it is not dark. 	<ul style="list-style-type: none"> • Just doing it for yourself. • It is for myself and I am really only influencing myself because I try my best and I think it is helping for me so I can do my dancing better. • Myself. • And basically, I make the choices. • It really depends on the person's choice. The kind of physical activity. Like say, someone likes soccer, and they are really good at soccer and that keeps them very physically active. But then say they suddenly just start playing basketball, like forcing, or some sort, they wouldn't do so good, and they wouldn't even try I guess. You could put it in a way. So it is like the person's choice.

Social Cognitive Theory Construct: Vicarious Experience

As Bandura (1986) suggests, observers who recognize models as having a positive experience performing a behavior without adverse effects, may be more motivated to perform the same behavior.

Theme 3: Reciprocal Family Modeling.

Parents' comments indicated that their children were involved in a wide variety of positive physical activity experiences, including community organized sports, school sports and physical activities, and active play. Similarly, children's comments noted their parents participating in community organized sports and physical activities, exercising at home, and outdoor physical activities. Comments such as the ones presented below indicate that parents and children who participated in the focus group interviews reciprocated positive modeling of physical activity. These comments suggest the potential of positive observational learning while watching parents and children's physical activities. More examples of similar comments can be found in the first section of Table 4.

My child has just tried out for rep soccer and made the team for rep soccer. So that is two practices a week and probably a game every Saturday on a very elite team, which they practice a lot. He is right now currently playing baseball and he just tried out for the AAA and they won the provincials last year so he is going to be doing the AAA baseball as well as doing the A1 Peewee Rep Lacrosse.
(Parent)

My Dad, he comes home from work and he is like I have to go to the gym. I want to go to the gym. And my mom is like I'll come too, and like they always workout together.
(Child)

In contrast, a few comments showed that some parents or children reciprocated a different type of observational learning. These comments reflect vicarious experiences

where some of the parents and children focus group participants did not have physically active children or parents as role models.

The middle one he is almost 13, no he is 14, to get him to move you almost have to put a bomb under him! It is just not his personality. He would rather draw, read, play the piano, act, watch TV. It is really even a struggle to him on a bike. To walk to the store he looks at me like that means moving.

(Parent)

Well my dad plays like a lot of soccer, well he used to. But right now you can say like the economy is not that great and he needs to work and after like a days, like a very long time, like he is like really beat, but he doesn't do that much exercise anymore. He just likes goes home very tired and he just relaxes.

(Child)

The above comments suggest that a few of the parents and children who were interviewed did not reciprocate positive observational learning for supporting physical activity. Although the vicarious experiences illustrated in these comments did not indicate they were necessarily negative experiences, according to Bandura (1986), such experiences influence an observer to be less motivated and inhibited in their response. These comments have been summarized in the second section of Table 4.

In addition to parents commenting on the physical activity behavior of their children, and children commenting on the physical activity behavior of their parents, both parents and children stated they were exemplary models or sources of reciprocal influence for each other. These comments included:

I think in another way, like you said earlier, modeling, implicitly we influence them by what we are doing. If we are just sitting there on the computer or watching TV or whatever, we're modeling for them. So if we are out there, you know, even if when I go for my run or whatever it is, and she or he sees that, you know I don't have to say anything, but they might remember it or later on influence them.

(Parent)

I influence them by they see how well I can do stuff and they see how well like how high I can jump and stuff and they realize that they need to start exercising as well. I think it influences my Mom and my dad because they know that I am doing well and um they know that I am doing my best and they feel good about it.
(Child)

Comments such as the ones presented above support the current research questions, as they explicitly indicate that parent and child modeling is a source of influence on each other's physical activity. Table 4 provides a sampling of the many comments provided by parents and children encompassing the three sections of Theme 3- Reciprocal Family Modeling.

Table 4.

Theme 3: Reciprocal Family Modeling

Parents	Children
<p data-bbox="310 427 921 459">Recognizing Physically Active Children As Models</p> <ul style="list-style-type: none"> <li data-bbox="310 495 921 725">• My youngest is really active. Playing outside, street hockey, badminton, you name it. He is also a very strong swimmer, plays soccer, plays baseball, plays ball hockey. <li data-bbox="310 761 921 991">• My kids are both in a lot of physical sports, team sports. Both of them. It drives me crazy. I am all over the place with them. So it is the same kind of thing. Very active... <li data-bbox="310 1027 921 1257">• My 13 year old plays about, he is on 3 different teams right now or has been in high school. Just finished volleyball, does basketball, fastball, and roller hockey. <li data-bbox="310 1293 921 1523">• So at least once a week she is doing swimming. Sometimes when you know she has more time twice a week. Then badminton, she is learning badminton now. <li data-bbox="310 1559 921 1789">• I also look to my kids as role models too because I think it works sort of hand in hand and. Not role models per say but maybe motivation. 	<p data-bbox="951 427 1562 459">Recognizing Physically Active Parents As Models</p> <ul style="list-style-type: none"> <li data-bbox="951 495 1562 527">• My parents like to go walking and swimming. <li data-bbox="951 563 1562 661">• Um, my Dad goes to the gym and both my Mom and Dad go bowling on Mondays. <li data-bbox="951 697 1562 795">• They play badminton, basketball, soccer, and running. <li data-bbox="951 832 1562 1061">• My Dad loves like um fixing stuff. Because like we have a lot of gym equipment in our house and he regularly uses that tread mill thing and just exercises. <li data-bbox="951 1098 1562 1400">• My Mom always goes for a walk in the morning and sometimes my Dad. Because sometimes my Dad walks me to school and my Mom walks my sister to the bus stop and my Mom always goes around the cemetery. <li data-bbox="951 1436 1562 1666">• They walk the dog and my Dad likes timing himself how long it takes for him to run around Central Park. And we usually go jogging around Kilarney Oval.

<p>Not Having Physically Active Children As Models</p> <ul style="list-style-type: none"> • I have some that are very and some that are not. • ... he has always been a sedentary child. As a baby he didn't crawl until he was 10 months old. He didn't walk until he was 14 months old! You could set him down and when you came back he would be in the same spot! So it was great! And he is the one who would prefer to grab a book and sit on a couch and read rather than go out and play. • Well I was going to say a 10 year old doesn't really influence me because you just drop them off, or watch them. 	<p>Not Having Physically Active Parents As Models</p> <ul style="list-style-type: none"> • Not much but she usually does gardening. • Not much. • Well I would say that my family is really busy all of the time and my brother has loads of homework. I got all of these places to go to and my Mom she usually is really busy for us as well so she doesn't exactly get probably as much physical activity. • She walks around the park with the dog. That is all she does.
<p style="text-align: center;">Parental Modeling</p> <ul style="list-style-type: none"> • Lead By Example. • Even when they were little babies putting them in the stroller and just going outside and having a walk every day. And of course the walking to school. I actually really like walking them to school because it forces me to get out and get my walk in the morning. • Well I always try to walk to school. So when they were in pre-school we walked to Thompson Community Centre, and I have 	<p style="text-align: center;">Child Modeling</p> <ul style="list-style-type: none"> • My Mom, like I make her bike to school, like she bikes to school with me everyday. • I show them my muscle. They get jealous but they have it more than me but they go oh I should start. • I influence them by they see how well I can do stuff and they see how well like how high I can jump and stuff and they realize that they need to start exercising as well. I think it influences my Mom and my Dad because they know that I

<p>years where I go to Thompson Community Centre, and then I am rushing back here to pick up from kindergarten. So just if I make myself walk to get them from school, like it is extra activity built into my day.</p> <ul style="list-style-type: none">• We are close enough that we walk to school and for them. They don't want to take the car.• Both my husband and I are active.• You have to go. I mean they can't ride their bike down to Steveston themselves or out on the dike. So you have to go too.	<p>am doing well and um they know that I am doing my best and they feel good about it.</p> <ul style="list-style-type: none">• And I think they think well he is my son and he is going outside every day playing and exercises, why shouldn't I? So then later on they go swimming or walk.• My Mom takes me to swimming pools and then we practice which makes her start swimming.
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Theme 4: Family, Community, and Culture are Models Too!

It think it is your upbringing, I think it is your parents. I grew up with five brothers and I had to. It was just the thing. You had to play everything and run every track meet.

(Parent)

My Uncle because when he was in elementary he was good at sports and then as I was growing up he taught me how to play soccer, which is my favorite sport and he taught me how to play hockey.

(Child)

In addition to both parents and children being models for each other, it is apparent that family, community, and culture were also sources of observational learning for the parent and children focus group participants. Theme 4- Family, Community, and Culture are Models Too!, emerged as the participants' comments indicated a variety of models influenced their physical activity behavior. Some parents indicated important models for them included the media, medical practitioners, family upbringing, and cultural values. Further, a few parents reflected on less positive vicarious experiences and the lack of physically active models they had while growing up.

Comments from the children demonstrated that other models for them included siblings, relatives, teachers, community coaches, and the media. Aside from the aforementioned comments presented in Theme 3 regarding physically inactive parental models, none of the children mentioned other negative vicarious experiences.

Table 5 presents focus group comments that contribute to Theme 4- Family, Community, and Culture are Models Too! The comments are grouped under two headings- Parents and Children.

Table 5.

Theme 4: Family, Community, and Culture Are Models Too!

Parents	Children
<ul style="list-style-type: none"> • My Grandma was very wise and she made us walk from Burnaby. When we were back home we were exhausted. She introduced us to exercise. She always walked. • From TV programs and things like that. And magazine, newspaper. • Oh, and probably media, obviously, a little bit. • Books, everything. • What influences me is just everyone. Everyone out there where you see the parents out there. That is where you see the kids. • Your doctor. You know anytime you go in, oh what do you do? Do you exercise? And then you realize a lot of those things • First of all you know I think my daddy influenced my physical activity. He liked to do you know physical activity, play basketball or something when I was young. Every morning, sometimes you know he forced us, me and my brother to get up early you know, have a run or something. So now sometimes I am this same way with my kids. 	<ul style="list-style-type: none"> • I think my brother because I think sort of I am jealous at this point sort of. He is 14. He is usually like he is a really smart kid and he is a real fast runner, you know he can hold his breath longer than me, you know he swims faster than me. And I just go oh I can't stand this. I need to catch up. It makes me want to be more exercised. • People, like I read this book physical activity is good for you and there are TV shows that tell you that you should do physical activity. • And my Uncle tells me to like exercise more and do weights for hockey. • Um I think that would be from my like my cousin because they played soccer and they also did swimming. And then I kind of got influenced thinking oh that is kind of fun for swimming and soccer, so then ever since then I have been obsessed with like sports. • I read it on newspaper.

Social Cognitive Theory Construct: Social Persuasion

Bandura (1986) describes social persuasion as an influential source of increasing self-efficacy. Two themes revealed that verbal persuasion of physical activity and facilitating physical activity were common methods that parents and children employed to influence each other's physical activity.

Theme 5: Verbal Persuasion of Physical Activity.

Encourage them to join basketball or baseball, or try new sports whether it is. Our two kids have joined fencing, you know it was something they decided to try. So we said sure go for it. I think encourage it and stand behind them is a big factor.

(Parent)

I influence my parents by like staying outside. I am going to stay outside until you guys will come out. Like I always say that and then they have to come out then cause then I am not going to go inside. And they come and play with me. And then we always go for walks, like on the dike.

(Child)

Both parents and children commented on their ability to persuade, convince, and encourage each other to be physically active. The preceding comments from a parent and child focus group participant exemplify Theme 5- Verbal Persuasion of Physical Activity. Further examples of these comments can be found in the first section of Table 6.

Comments that formed this theme include parents indicating the importance of encouraging their children to find a physical activity that they enjoyed. As one parent indicated, "It took us quite a few different things before she found something that she really wanted to do and that is why she stuck with her dancing." Children also stated they influenced their parents to be physically active by encouraging or telling them to do something physical. Many of the children asked or told their parents to join them in their physical activities such as playing outside, going for walks, or biking to school. Two

children also indicated they verbally persuaded their parents to eat healthier. “I don’t really convince them to do exercise, instead I tell them to eat healthier” was a comment made by one child.

Although the majority of the children indicated they felt they persuaded their parents to be physically active, two children felt they did not influence their parents’ physical activity. These two comments can be found in the second section of Table 6.

Also emerging from the focus groups were comments suggesting that not only were parents providers of verbal persuasion, but they too received encouragement from their children to be physically active. Similarly, children commented that not only did they encourage their parents to be active, but their parents also encouraged them. The third section of Table 6 summarizes these comments.

Well he drags me outside to play road hockey, or badminton, or he nags me until I do. You know, he really likes to involve us, his Dad and I, in what he is doing.
(Parent)

In the way my Mom usually influences me to be physically active is she usually tells me to come with her to go for a walk and she tells me to do my dance practice.
(Child)

These comments indicate verbal persuasion is a bidirectional relationship between parents and children. In addition to parents and children indicating they reciprocated social and verbal persuasion, a new insight emerged regarding how verbal persuasion changed the participants’ physical activity behavior. Comments support the model proposed by Taylor et al. (1994) that a child’s behavior can affect their parents’ behavior in the same way a parent may influence a child’s behavior. When the children were asked if the influence (i.e. verbal persuasion) of their parents made a difference in their own physical activity, all of the comments indicated that it made them more active. For

example, one child reflected “It makes a difference because it makes me more active.”

Similarly, parents also commented that their children’s physical activity behavior and verbal persuasion influenced their personal physical activity behavior. One parent revealed:

They make me do things, some of the things that I would not actually do. Like rollerblading. There is no way I would have gone to do it. I have no inclination of wanting to learn it, but it is something I would do just for the children. There is certain sports that we are not going to do, it is just we do it for the kids.
(Parent)

Another parent, however, felt their child’s persuasion and needs prevented them from participating in certain physical activities. This parent stated “I am on the opposite side where it is actually holding me back from what I want to do sometimes. So if I want to join some sports and all of that stuff but I can’t really do that because I have to go and kick the ball with him or do some stuff with him.”

Table 6 has been organized into three sections, according to the comments made by parents and children.

Table 6.

Theme 5: Verbal Persuasion of Physical Activity

Parents	Children
<p data-bbox="348 423 872 455">Parents Verbally Persuading Their Children</p> <ul style="list-style-type: none"> <li data-bbox="303 491 905 587">• Show support. As soon as you show support they are more inclined. <li data-bbox="303 629 905 789">• I have to encourage him, influence, or push. I ask them to turn off the TV and do something active. <li data-bbox="303 832 905 927">• To bike, to walk. Do something useful. Use your body!! <li data-bbox="303 970 905 1534">• There was a time when we would sign up for lots of activities and some of them we would quit because he just wasn't involved. Now where we are at the point where we don't quit what we start, that is something we have learned, and we try to encourage how important it is to learn the value of putting an effort into something, even if it is not the physical exercise. <li data-bbox="303 1576 905 1736">• I try not to push them too hard if they don't want to do it, because I don't want them not to like it or feel like it is an obligation. 	<p data-bbox="991 423 1514 455">Children Verbally Persuading Their Parents</p> <ul style="list-style-type: none"> <li data-bbox="943 491 1554 651">• By saying that I am bored and that we don't go much outside and play and that is why they took me to play at the park. <li data-bbox="943 693 1526 789">• Well when I just ask them if I can go outside and play or running. <li data-bbox="943 832 1554 1193">• And sometimes like, when I ask my Dad to play with me, like some sports, but then like if he is injured, cause like if he has after a days work, I think he is like a little bit too tired, so then I wouldn't like push it. But other than that, that is all I do. <li data-bbox="943 1236 1554 1332">• You ask them to go outside with you, like to do something. <li data-bbox="943 1374 1546 1534">• I tell my Dad to let come outside let's play football and stuff, and always tell him to come outside and play and everything. <li data-bbox="943 1576 1471 1672">• I tell her to come outside more and walk instead of driving.

	<p style="text-align: center;">No Influence</p> <ul style="list-style-type: none"> • Not really. • Not really because you don't really bring them to places. They sort of bring you to places.
<p style="text-align: center;">Children's Verbal Persuasion</p> <ul style="list-style-type: none"> • Now my daughter want him to move. So every weekend my son ask him to go and make their father want more exercise. • The children don't want to do anything without us. They want us involved with everything as much as possible. • Mom let's go. Go play some badminton. I am doing good now. • Well he drags me outside to play road hockey, or badminton, or he nags me until I do. You know, he really likes to involve us, his Dad and I in what he is doing. • I would say they want you to play with them. They want you to play skip, they want you to go for a bike ride. • You know, but they like that. They like to see you, like to see the adults actually move too. So I try. And it is fun. • I am on the opposite side where it is actually 	<p style="text-align: center;">Parents' Verbal Persuasion</p> <ul style="list-style-type: none"> • Get off of the computer and go outside! • She just tells me to be as physical as I can. • And my Dad sometimes, um, he like on purpose fixes up my bike without telling me, and if I don't go on it and run around, he will like make me feel bad. • My parents like, I don't know how to say it. They influence me by saying like oh come on. They kind of bribe me sometimes, when I am like I don't want to do this. But then it is kind of and then when they take me outside, it is kind of fun though. • Sometimes my Mom usually says oh you haven't been on your bike for a long time, it is really new, how come you never rode it? And then she makes me ride my bike.

<p>holding me back from what I want to do sometimes. So if I want to join some sports and all of that stuff but I can't really do that because I have to go and kick the ball with him or do some other stuff with him.</p>	
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Theme 6: Asserting Physical Activity.

The final theme that emerged within the Social Cognitive Theory Construct of Social Persuasion was unique to only the comments made by the parents. The parents indicated that not only do they encourage their children to be physically active, but they often push their children to be physically active. Although a few of the children commented they begged or told their parents to be active, nothing emerged to indicate they were able to force their parents to be active. Parents on the other hand explicitly commented that they registered their children for activities and sports such as swimming, soccer, and baseball. Often the decision to have their children participate in these activities was the parent's initiative and not the child's. Comments from parents such as "they don't have a choice" or "I make them" and "I force kids to exercise" are indicative of the notion that parents impact their child's physical activity through more assertive means of influence. Theme 6 highlights that parents are driven by their strong values to want their children to be healthy, and thus will use more assertive methods to persuade their children to be physically active. It indicates a stronger and more forceful influence from parents as opposed to verbally persuading and encouraging their children to be physically active.

Interestingly, when children were questioned how their parents influenced their physical activity, their responses indicated they recognized their parents forced them to be physically active. As one child stated "she doesn't really tell me to go anywhere but she signs me up for things I don't even know about. And then I just go there and she doesn't tell me about it." Another child reflected "Last summer I went to a sports camp.

The summer before that I went to a sports camp and soccer camp. I am not going to [this summer] because I couldn't find anything I wanted to do. But she wanted me to look.”

Parents and children were both successful when applying socially persuasive techniques to influence each other's physical activity. None of the interviewed children commented they employed socially persuasive techniques such as force to influence their parents' physical activity. As discussed in Theme 5, asking, telling, and encouraging were socially persuasive techniques the children felt influenced their parents' physical activity.

Table 7 has been subdivided as parents and children comments. Note the children's comments indicated their acknowledgement of how their parents push them to be active. None of the comments from the children suggested they asserted their parents to be active.

Table 7.

Theme 6: Asserting Physical Activity

Parents	Children
<ul style="list-style-type: none"> • Forcefully. • I force kids to exercise. • Well I have to kind of push with my younger one, she doesn't like to do anything. She just wants to sit at home, so um, you know she tried a few things and then she would try for like a term and she wouldn't want to do it again. • So with my younger one next year, you know I have to push her. • They don't have a choice! • ...I said well you have to do a sport. You have to do something, you know. • Staying home is not an option. • But as time became less and less, we just signed them up! • I make them! • Whether they want to or not! 	<ul style="list-style-type: none"> • My Mom puts me in summer soccer camp. They sign me up for lots of sports activities at Kilarney, • She [her Mom] is getting ready for some more things in the summer. • She makes me go outside.

Social Cognitive Theory Construct: Outcome Expectations

Although outcome expectations are not strong predictors of behavior on their own, the value a person places on an outcome may predict an individual's behavior (Bandura, 1986). In addition to exploring the three sources of self-efficacy, focus group questions addressed the value parents and children placed on physical activity for themselves and for each other.

Theme 7: Health Benefits of Physical Activity.

Comments that comprised this theme discussed the importance of being physically active for optimal physical, mental, and spiritual health. For themselves, parents commented that physical activity was important for relaxation, stress relief, and providing extra energy. Theme 7- Health Benefits of Physical Activity is exemplified in the following comment from a parent: "For me it is stress relieving. Good well-being."

Parents stated similar health reasons for why physical activity was also important for their children. For example, one parent commented "They sleep better. They play better. They think better. Everything. It goes back to basics." Likewise, the children suggested that health benefits for themselves were important reasons for being physically active. In particular, disease prevention, increasing life expectancy, and maintaining healthy body weight were health reasons for why the children valued physical activity. The following comment from one of the children reflects Theme 7- Health Benefits of Physical Activity.

I think that it is important for me because right now at this stage is where kids are like having the most rapid growing up state where they have lots of like differences in their bodies and I think that physical activity is important for us so that it will help develop like more new bones and help make us stronger.

(Child)

When the children were asked why physical activity was important for their parents, the same health outcomes that they identified for themselves once again emerged as being important for their parents. For example “If they were maybe a little bit overweight when they were young and now they are obese, then they could try to exercise and lose off some of the weight and maybe live longer.”

Table 8 has been organized similarly in that comments are under the headings of Parents and Children. Sub-headings Important for Themselves and Important for Parents/Children reflect the outcome expectations the participants had for themselves and for each other.

Table 8.

Theme 7- Health Benefits of Physical Activity

Parents	Children
<p style="text-align: center;">Important For Themselves</p> <ul style="list-style-type: none"> • For maintaining health and general fitness, general level of fitness and also weight and all of those things. If you are physically active, you don't have a problem with your weight. It is very simple. And then health reasons too. • In terms of health, I know my parents now that they are older, they are having a really tough time because they didn't choose an active lifestyle. And they are having a lot of health problems and so I would really like to try and avoid that. • For me it is stress relieving. Good well-being. • You know it helps with the stress. Like I think it is very important. • And to add to that it just makes you feel better about yourself when you look good, you feel better, and your self-esteem goes up. 	<p style="text-align: center;">Important For Themselves</p> <ul style="list-style-type: none"> • To keep us healthy and fit. • It makes you healthier and you can run better and you can play more sports if you are fit because then if you are overweight you can't run as fast as others. • It is healthy. • It's good exercise. Some people don't exercise and they are really not as healthy as some people. • Well it kind of like works of your heart and like it is kind of like training your heart. • So you don't get like weird diseases. • It will prevent me from having strokes and heart attacks. • Because the more you exercise the bigger your advantage can be in the future. You can do more stuff.
<p style="text-align: center;">Important For Their Children</p> <ul style="list-style-type: none"> • Just to add on that it probably also leaves the groundwork for them to grow up healthy and 	<p style="text-align: center;">Important For Their Parents</p> <ul style="list-style-type: none"> • So they can be fit and they won't be overweight and that um they can move faster.

get their bones stronger. Get their immune system a little bit stronger.

- More healthy. I think it is different for kids if they don't do physical activities. Sometimes I think it influences kids' brain.
- Health, enjoyment, fun.
- Yah de-stressing I would say. And same with the children. Whatever it does for you it does for the kids. And it tires them out at night!
- I know I have said to my son, that he has had trouble sleeping for example once in a while. And I will say well maybe it is because you sat inside too much today. And that was quite a while ago, a couple of years ago, and he still remembers that.

- So then they won't get cancer or those kind of diseases.

- I think it is important for my parents because you know as you grow older you have all of these different sicknesses like arthritis and you know your hands, and I think that if you do more physical activity and stay healthy it will help prevent that.
- For our parents, like cause if people get too fat then they get heart attacks and they can die from that.
- I think it is important for them so they like when they get old they can still do active things like go out for a walk.
- So they can live to an old age.

Theme 8: Enjoyment of Physical Activity.

Another outcome expectation of physical activity was enjoyment. Parents commented that physical activity was important for them because they were able to enjoy personal time while being physically active.

It is important because it gives me time to be with myself, in a healthy environment.
(Parent)

This comment from a parent focus group participant highlights Theme 8- Enjoyment of Physical Activity. Parents also commented that physical activity was important for their children also for enjoyment reasons. A parent summarized, “My kids really have a lot of fun when they are out doing physical stuff. They really, really enjoy it so that is a big thing.”

Children who participated in the focus groups equally valued physical activity because of the expectation that it is fun. For example, one student alluded to both health and enjoyment “Well I think that physical activity is fun and it’s like, I don’t know, sort of like refreshing.” Another participant commented “I think it’s good for you and there are many things that are fun that are also physically active.”

Although parents commented that physical activity was important for their children because of enjoyment, none of the children interviewed stated this was an expectation for their parents. All of the comments from the child focus group participants indicated they valued physical activity for their parents because of the health benefits, and not because of enjoyment outcomes.

Table 9 is organized under the headings of Parents and Children. A sub-heading, **Enjoyment of Physical Activity For Their Children**, reflects parents comments that indicated enjoyment of physical activity was also important for their children.

Table 9.

Theme 8- Enjoyment of Physical Activity

Parents	Children
<ul style="list-style-type: none"> • Just go for a walk and you enjoy you know, beautiful, nice day. I always do you know after dinnertime. • For me I have always enjoyed physical activity ever since a young girl. • It is important because it gives me time to be with myself, in a healthy environment. • And I have always, you know that is what I make time for in the morning is my stretching and my walking, every morning. • There are days when everybody is just running around and you can give yourself an hour a day, two times a week or whatever time. 	<ul style="list-style-type: none"> • I like physical activity a lot. • It is fun. • I like to do it. It is fun. • It's fun. • It's fun because most of my activities are sports. • And the only reason I like it is because you get to go outside and you get to do all this fun stuff, even at home I am like that. • It feels good because it is fun and I work hard.
<p>Enjoyment of Physical Activity For Their Children</p> <ul style="list-style-type: none"> • Health, enjoyment, fun. Leisure, relaxation. • My kids really have a lot of fun when they are out doing physical stuff. They really, really enjoy it. So that is a big thing. • Friendship and fun and stuff. 	

Theme 9- Social Benefits of Physical Activity.

It makes a difference because it makes me feel good about being a mother. My daughter says Mom it has being so nice walking, do you realize how many things that we talked about? I think I develop a better relationship with my children, the things we share as mother and daughter.

(Parent)

Theme 9- Social Benefits of Physical Activity emerged from numerous comments made by parents who participated in the focus group interviews. The parents revealed they felt they valued the importance of physical activity for their children because it created opportunity for family bonding.

I think spending time with them too. We go out to the playground and we made up some games that we play with the rings and things and it is just being with the kids. I don't get to spend a lot of quality time with them, so when we do have the opportunity, we are out there, or in the yard doing whatever we can kind of thing.

(Parent)

Another mother commented "I think one of the most thrilling things for me is I ski and the kids snowboard. And I do that with them now. I just love it. You know it is something that we can do together." This theme reveals that physical activity is an important method for families to spend time together.

Some of the parents also stated they valued physical activity as a means for their children to develop friendships, socialize, and build relationships with people other than family. Physical activities provided opportunity for "Time to socialize with friends and have a better relationship with brothers." This was echoed by a parent who commented:

Also the team sports. I think that it is really important for the children. And both of my kids are in team sports and they are also in Judo which provides them with discipline and other life skills that they can use outside their activities. Builds team building, and how to get along with others.

(Parent)

None of the parents suggested they valued physical activity for themselves because of the social aspects. Furthermore, the comments from the children also did not reveal that family bonding or social aspects were outcomes expectations for them or for their parents. Theme 9- Social Benefits of Physical Activity emerged as a unique theme as a result of the comments made only by the parents.

Table 10 organizes parents' comments under the headings Social Aspects and Family Bonding.

Table 10.

Theme 9: Social Benefits of Physical Activity

Social Benefits	Family Bonding
<ul style="list-style-type: none"> • Time to socialize with friends and have a better relationship with brothers. It is different for kids. • Team sports gives a lot of friends too. My child goes to a different school where we live, and he knows a lot of children in the area just through the team sports. It is companionship and friendship too. • Friendship and fun and stuff. • For kids, it keeps them away from TV and computer. Not really running, but playing. • It is really important for me is that one it gives them something to do and teaches them um activities that are fun for them, that they can grow up with without having to go to alternatives. You know, it keeps them busy with positive sports and such. 	<ul style="list-style-type: none"> • I like being out with the family when we are doing things. I mean a couple times a year we usually rent a gym and get all of our friends together and have a physical night and everybody is playing dodge ball or whatever and badminton. • We just go on the weekend and play badminton and soccer with our kids and my husband. Yah, I really like it. • Yah, actually that is another thing is I like the bonding. • Well my one daughter she does like to spend a lot of time with me alone, so we go for walks, and now we have a dog so we go for long walks with the dog. And we usually do a circle of our block at least twice, because she likes to talk, and she calls it like you know her time. • It is a bonding thing too. They want to see their parents there.

Chapter 5

Discussion

The purpose of this study was to better understand the reciprocal relationship between parents' and children's physical activity. Applying four constructs of Bandura's (1986) Social Cognitive Theory, focus group questions explored the mechanisms of how parents and children influence each other's physical activity. Secondly, the purpose was to assess if the insights from the focus groups are consistent with the proposed Social Cognitive Theory constructs.

Themes emerging from this study's focus groups indicate that parents influenced their children's physical activity and that children influenced their parent's physical activity. In particular, the mechanisms of their influence included enjoyment of physical activity, being physically active role models, encouraging each other to be active, as well as valuing physical activity for its health and social benefits.

Findings indicate the emerging themes are consistent with the proposed Social Cognitive Theory constructs and Bandura's (1986) model of triadic reciprocity. Furthermore, results also support the model proposed by Taylor et al. (1994) when the model is expanded to include the family perspective.

Family Influence on Physical Activity

Social Cognitive Theory Construct: Mastery Experience

The construct of Mastery Experience provides insight into the physical activity behaviors of the parents and the children. The parents and the children indicated they

were physically active and enjoyed participating in physical activities when they feel competent in the activity. Theme 1- Success In Doing Physical Activity is important as Bandura (1986) indicates positive mastery experiences are influential sources of self-efficacy. As confidence increases with repeated success of the behavior, self-efficacy increases as well as the likelihood of performing the behavior again (Bandura, 1986). Parents thoughts and feelings about their own confidence and experience in physical activity is important when considering the power of observational learning for children. As Anderssen and Wold (1992) reported, having “significant others who are both physically active and supportive of student’s physical activity seem to have an even greater impact” (p.345) on leisure-time physically activity. Welk et al. (2003) presented similar findings, reporting that children with active parents scored higher on the parental influence scale and children’s activity measures.

As literature indicates, active parental models are predictors of children’s physical activity. Carron et al. (1996) found that by applying a meta-analysis technique, social influences had a positive influence on exercise behavior, cognitions about exercise, and attitudes about exercise. Brustad’s (1996) study with a diverse population of Grade 6 urban children also indicated a “significant relationship between children’s perceptions of their parents’ physical activity socialization processes and their own physical activity orientations” (p.322). For girls in particular, perceived parental enjoyment was the most important variable associated with girl’s attraction to physical activity.

Parents also recognized that there were barriers to being physically active. Time, scheduling, and financial expenses were the most common barriers that parents indicated affected their physical activity choices. Although the parents’ environment presented

some challenges, their comments suggested they were able to overcome perceived barriers and still participate in physical activity. For example, if the financial cost of a physical activity or sport was an issue, the parents found alternative physical activities, rather than choosing not to be active.

Similarly, responses from the children focus group interviews indicated they had successful mastery experiences participating in physical activities and valued having the choice to participate in a certain physical activity. Theme 2- Personal Choice to Be Physically Active, highlights this notion those children appreciated being part of the decision making when choosing their physical activity.

In accordance with Bandura's (1986) Social Cognitive Theory and the triadic reciprocity model, the relationship shared between parents and their children can be considered mutual action between causal forces. The model proposed by Taylor et al., (1994) states that a child's behavior can affect a parent's behavior in the same manner that a parent can influence a child's behavior. It was important in this study to establish if the children had positive mastery experiences performing physical activity, as the model recognizes this as a potential influence on the behavior of their parents. As Taylor et al. (1994) states, "our model suggests that the child's behavior can influence the parent's behavior as well" (p.399).

Social Cognitive Theory Construct: Vicarious Learning

Illustrated in the model proposed by Taylor et al., is the reciprocal interaction between parent behavior and child behavior. Theme 3-Having Physically Active/Inactive

Parents and Children as Models provides insight into how physically active parents and children model influential behavior affecting each other's physical activity.

Parents felt they either implicitly or explicitly modeled influential physical activity behavior. One parent stated "...modeling implicitly we influence them by what we are doing." Forms of modeling included walking their children to school, being active themselves, and leading by example.

The parents' comments suggest they felt their physical activity behavior was influential in supporting their children to also be physically active. Bandura (1986) similarly acknowledges the importance of modeling to support or weaken inhibitions of a performed behavior and encourage observational learning. The findings of Anderssen and Wold (1992) indicated that significant others, such as physically active parents and peers had an impact in promoting physical activity in young adolescents. Similarly, Welk et al. (2003) observed that children with active parents scored higher on the parental influence scale and children's physical activity measures.

Current literature on parental modeling indicates a lack of consensus amongst researchers. A conflicting pattern of results has yet to determine the impact of parental modeling on children's physical activity (Taylor et al., 1994). Although current statistics indicate the majority of Canadian adults are not physically active (CFLRI, 1998/1999) the parent participants in this study recognized themselves as being physically active. As the literature suggests, active parents are more likely to engage in physical activity with their children thereby increasing the opportunity for parental modeling to be realized (Taylor et al.). Because the parents in this study were physically active, it is to be expected that they regarded themselves as positive models for their children. If the

participants had not been physically active, perhaps the emerging themes would have differed and parental modeling would have encouraged physical inactivity. For this study however, parents' comments support parental modeling as an important influence on children's physical activity.

Children in this present study indicated they modeled physical activity behavior that influenced their parents to be more active. A child describes his influence as "They think well he is my son and he is going outside everyday playing and exercises, why shouldn't I? So then later on they go swimming or walk." This quote is particularly important as it demonstrates the reciprocal influence between parent cognition and child behavior. It indicates the concept that as a parent I think about physical activity because I watch my child. This link is not addressed or illustrated in the model proposed by Taylor et al. (1994). They propose reciprocal interaction between child behavior and parent behavior, but not child behavior and parent cognition.

The findings of the present study also suggest that parental behavior, particularly actual physical activity involvement may be influenced by having physically active children. Comments from parents revealed they were influenced by their children when they see them playing outside and in turn joining them by kicking the soccer ball around, going for a bike ride, or playing road hockey.

Minimal research in the area of sport socialization has addressed the "child effects" (from child to adult) and the ways in which children can influence their parents' sport participation (Snyder and Purdy, 1982). A single study by Snyder and Purdy established that parents, in particular mothers, became more interested in sports as a result of their child's participation. Attitudinal and behavior changes were noted because

of their children's sport participation. Snyder and Purdy's research however did not establish if the active children (as models) were able to increase parents' sport participation. Furthermore, this study did not address physical activity participation. Behavioral changes such as attending sport events, and making family adjustments supported their hypothesis of the reciprocal sport socialization effects.

The current study found that models other than parents also influenced children's physical activity. The child participants indicated siblings, relatives, teachers, and coaches had influenced their physical activity. This is evident in Theme 4-Family, Community, and Culture are Models Too! As Sallis et al. (2000) reported, they found sibling physical activity was associated with children's physical activity, however parental physical activity was not related. Welk et al. (2003) also found that role modeling was not a significant influence on physical activity in children. They suggested a possible explanation for this was because children spend a large amount of time away from their parents during the day. Welk et al. questioned if "what has been termed a role-modeling effect may actually reflect differences in encouragement and support that are provided by active and inactive parents" (p.31).

Social Cognitive Theory Construct: Social Persuasion

Bandura (1986) recognizes that social persuasion, including verbal persuasion, is an influential source to increase self-efficacy. A theme that appeared to be dominant in this study was Verbal Persuasion of Physical Activity.

Parents' comments provide insight into the types of things they said that influenced their children to be physically active. For example, parents provided

encouragement such as “show support. As soon as you show support they are more inclined.” Other parents articulated more assertive language such as “Do something useful! Use your body!”

Anderssen and Wold’s (1992) research found that parental support related stronger to leisure-time physical activity than any other predictor-variable. They postulated this support may reflect that children require their parents to facilitate and organize physical activities, such as driving to training sessions. This is consistent with other findings such as research done by Welk et al. (2003). They too confirmed that parental encouragement and parental facilitation were predictors of physical activity in children. Furthermore, Carron et al. (1996) established that social influence from family and important others made a difference in exercise involvement.

In the current study, comments also revealed that verbal persuasion by children was an influential means to encourage parents to be physically active. Represented in Theme 5-Verbal Persuasion of Physical Activity, children indicated they encouraged or persuaded their parents to be physically active. It is from this theme that the importance of children wanting their parents to join them in basic play and unstructured physical activities is identified. For example, comments such as “You ask them to go outside with you, like to do something, or “...I ask my Dad to play with me” are indicative of the children’s desire to do physical activities together. Similar to the comments revealed by parents, the notion of the importance of family bonding and spending time together emerges in the children’s comments.

None of the comments from the children indicated they used verbally persuasive techniques to influence their parents to participate in more structured physical activities

such as sports. Instead, playing, running, walking, and other recreational pursuits were the types of unstructured activities children influenced their parents to join with them. These activities did not require lots of organization, transportation, or expensive equipment. Theme 5- Verbal Persuasion of Physical Activity, emerges as something unique that has not been adequately addressed in the literature. Snyder and Purdy (1982) as well as Berlage (1982) studied only children's influence on sport participation and not the broader category of physical activity.

Other types of social support provided by parents included facilitating factors such as buying sports equipment, registering their children for lessons and activities, and doing physical activities together. Comments also indicated that parents persuasively facilitated their children to be involved in physical activities. As one parent indicated "they don't have a choice."

Although Theme 6- Asserting Physical Activity implies children do not have a choice to be physically active, children may require this form of influence to facilitate physical activity participation. For structured physical activity participation, children are not in a position to pay for sports teams, transport themselves to activities, and register for community activities. A child participant acknowledges this reality: "You don't really bring them to places, they sort of bring you to places." Children's comments reflect that they are influenced by their parents persistence for them to be physically active, however none of the children indicated this was unwanted or negative.

Unlike Theme 6- Asserting Physical Activity, which emerged from the parent focus group interviews, none of the children commented on using these techniques. This to expected, as the children in this study were a mean age of 10.8 years. For obvious

reasons, children of this age level are not in a position to finance or transport their parents to their physical activities. Most importantly, the present study reveals that although children may be dependent in the parent-child relationship, they remain capable of influencing and making a difference in their parents' physical activity.

Theme 6-Asserting Physical Activity, reflects the structure of the family relationship. Parents acknowledge the power structure and responsibilities that are included in the role of being a parent. It suggests the parents' strong values regarding physical activity influenced them to ensure their children are engaged in activities that will ultimately benefit their development. Berlage (1982) considers this relationship as one in which "the child-rearing philosophy has shifted to one of greater parent involvement in the structuring of children's lives" (p.44).

Social Cognitive Theory Construct: Outcome Expectations

The common values shared within a family are reflective of their culture and ethnic environment (Taylor et al., 1994). In this study, a small ethnically diverse population participated in the focus group interviews. The interviews were also conducted in socio-economically diverse areas within the Richmond and Vancouver School Districts. The participants' comments overall, however, indicate similar shared values and outcome expectations of physical activity. Although outcome expectations are not considered one of the four sources of self-efficacy, according to Bandura (1986) the value a person places on an outcome may predict an individual's behavior. Outcome expectations are often dependent on the judgment of one's ability to perform a behavior (Bandura, 1986). This connection between positive mastery experience and outcome

expectations was revealed in the parents' and children's comments regarding physical activity.

Health benefits, enjoyment of physical activity, and social benefits for their children were common themes that emerged when the parents were asked why physical activity is important. Parents' expectations included relaxation, stress relief, and well-being. For their children, parents valued physical activity for similar health outcomes, but also for enjoying family bonding time and social development opportunities. As one participant summarized "It makes a difference because it makes me feel good about being a mother."

In several studies involving mothers and daughters exercising together, Ransdell et al. (2003a, 2003b, 2003c) determined the program's success was attributed to the opportunity for mother-daughter bonding and participating together in physical activities. As an intervention grounded in Social Cognitive Theory, results "consistently supported the notion that the family provides powerful support for physical activity participation" (Ransdell et al., 2003a, p.26). Participants commented they especially enjoyed the program because it allowed them to spend quality time together (Ransdell et al., 2003a).

Parents in the present study also revealed that not only was it important to them to have the bonding time, but that their children also wanted to spend the time together. A parent noted her children "...want us involved in everything, as much as possible." Physical activities were thus a means for spending time together while going for a walk, creating games on the playground, and sharing tips for how to improve each other's downhill skiing. The parents recognized they would even participate in activities they normally wouldn't choose, in order to maximize the amount of time they spent with their

children. One participant stated there are “certain sports that we are not going to do, it is just we do it for the kids.” One parent felt it was important for her children to know how to swim on vacation and thus she registered them in swimming lessons. Recognizing today’s sedentary society, a parent felt that physical activity kept their child occupied and away from the television. Other parents felt that physical activity and sport participation developed important life skills such as discipline and team-building. Because the parents in this study placed value and expectations on physical activity, their children were influenced to be physically active.

The children also revealed they had similar outcome expectations from engaging in physical activity. Specifically, children emphasized they valued physical activity for themselves because of the health benefits and the enjoyment they associated with being active. “It is healthy” and “It will prevent me from having strokes or heart attacks” were some of the reasons why the children felt physical activity was important.

Children believed physical activity was important for their parents because of the health benefits. Disease prevention, increasing life expectancy, and maintaining healthy body weight were reasons why children valued physical activity. Children stated, “so they can live to an old age” or “so they won’t get cancer or those kind of diseases” as examples.

Children’s comments also revealed that seeing their parents overweight encouraged them to influence their parents to be more physically active. This notion is exemplified in the following comment: “If they were maybe a little bit overweight when they were young and now they are obese, then they could try to exercise and [lose off] some of the weight and maybe live longer.” Children recognized their parents’ behavior,

acknowledged the health benefits from doing physical activity, and thus encouraged them to be more physically active. This concept of bidirectional influence between parent behavior and child cognition is not illustrated in the model by Taylor et al., (1992).

Theme 8-Health Benefits of Physical Activity indicates children regard physical activity as a means for their parents to avoid all of the bad things they associate with being old. “They get heart attacks and they can die from that” or “these different kind of sicknesses like arthritis” are reasons why children influenced their parents’ physical activity. Some of the children even mentioned preventing “weird diseases” for why physical activity was important for their parents.

When considering Family Influence on Physical Activity, Bandura’s (1986) Social Cognitive Theory Constructs are evident in the themes emerging from the focus group interviews. In summary, parents and children’s positive mastery experiences, role modeling, encouragement and support of physical activity are consistent with the proposed constructs. These three sources of self-efficacy as well as physiological states (not addressed in this study) are sources of information for parents and children to judge their abilities and thereby predict their physical activity behavior. Outcome expectations, although on their own are not predictors of behavior, are closely linked to people’s judgments of their capabilities. The connection between outcome expectations and self-efficacy is evident in this study, as parents and children who reported positive mastery experiences with physical activity also placed high outcome expectations on this behavior. Similar to the model proposed by Taylor et al. (1994), insights from the focus groups support the reciprocal relationship between parents and children and its influence on physical activity in the shared family environment.

Conclusion and Recommendations for Future Research

This study contributes to a better understanding of the reciprocal relationship between parents and children's physical activity. Themes that emerged from the data suggest that the mechanisms of the reciprocal relationship are consistent with the proposed Social Cognitive Theory Constructs. Similar to the existing literature, this study suggests parents influence their children to be physically active primarily through modeling and social persuasion. The parents also expressed positive mastery experience in doing physical activity and placed value on the importance of physical activity for themselves. Health benefits, enjoyment, and social aspects were specific reasons why parents felt physical activity was important for their children. Children indicated they influenced their parents through similar techniques such as modeling and social persuasion. They also expressed positive mastery experience performing physical activity, and valued physical activity for health benefits and enjoyment. For their parents, health benefits were the single outcome expectation the children associated with being physically active.

An important finding that emerged from the focus groups was the importance that physical activities should encourage families to spend time together and maximize family bonding time. Comments revealed that physical activity on its own was not the main emphasis. Instead, physical activity was the enabling factor that provided the opportunity for parents and children to spend time together.

Also emerging from this study, were a few comments that indicated there is a bidirectional influence between parent cognition and child behavior. For example, a

child participant commented that their parent thought about physical activity and became more active because they saw their child engaged in physical activity. Further study of this relationship is warranted as these preliminary comments indicate parent cognition may be influenced by their child's behavior. This relationship is something that has not been previously identified nor addressed in the model proposed by Taylor et al. (1994). This relationship suggests that if their children are physically active, then perhaps parents may think about physical activity more often and thus may be influenced to become physically active themselves.

Not only has the structure of the family unit significantly changed, but also advancements in transportation, communication, and technology have rapidly transformed our everyday lives. Berlage (1982) noted these changes over two decades ago, yet his comment regarding sports participation remains relevant. He reflected "Children's sports provide an opportunity for mother and father to participate in a learning environment with their sons and daughters. In fact, sport may provide one of the few areas left that the whole family can participate in together" (p.45).

The findings of this study may provide useful information for encouraging families to become more physically active. Consistent with the findings of Ransdell et al. (2003 abc) the opportunity for family bonding and spending time together influenced parents' and children's physical activity. Future studies should consider these qualitative findings when planning a family intervention based on Social Cognitive Theory to increase physical activity. The present study revealed that family physical activity might be influenced by encouraging families to participate in unstructured, non-sport specific physical activities.

Current literature has only begun to explore the potential of children's influence on their parents' physical activity. This study validates the need for future research to focus more on better understanding how children potentially influence their parents' physical activity. Future research should investigate a larger more diverse population of parents and children to explore in greater detail the mechanisms of the reciprocal relationship between parents' and children's physical activity. A survey based on the four constructs of Social Cognitive Theory explored in this study may provide further insight into the reciprocal relationship between parents and children. This information could be the basis of an intervention designed to increase family physical activity.

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Appendix A: Certificate of Approval



University
of Victoria

University of Victoria - Human Research Ethics Committee

Certificate of Approval

<u>Principal Investigator</u> Janelle Zebedee Graduate Student	<u>Department/School</u> PHED	<u>Supervisor</u> Dr. Sandra Gibbons	
<u>Co-Investigator(s):</u> Patti-Jean Naylor, Ministry of Health Planning Jennifer Rankel, BC Heart Health Project			
<u>Title:</u> Family influence on physical activity behaviour: Exploring the nature of reciprocal relationships			
<u>Project No.</u> 562-03	<u>Approval Date</u> 06-Feb-04	<u>Start Date</u> 06-Feb-04	<u>End Date</u> 05-Feb-05

Certification

This is to certify that the University of Victoria Ethics Review Committee on Research and other Activities Involving Human Subjects has examined the research proposal and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.

J. Howard Brunt
Associate Vice-President, Research

This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions/minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.

562-03
Zebedee, Janelle

Appendix B: Participant Consent Forms and Letters

Invitation For Parents Participation



As you may be aware of, your child's school is currently participating in the Action Schools! BC physical activity initiative. This project's aim is to assist elementary schools in developing individualized school action plans to promote healthy living. Currently, over 500 students in Richmond and Vancouver School Districts are being evaluated to determine the health changes that occurred as a result of participating in Action Schools! BC. As part of this project, we would like to invite you participate in a discussion to comment on your thoughts about the Action Schools! BC initiative, as well as your experience regarding family influence on physical activity. Research of this type is important because the benefits of regular physical activity to health have been well established. A better understanding of how families can be supported in their physical activity endeavors will help foster interventions and new ideas to promote physical activity, thereby enhancing the quality of life for children and their parents.

This focus group session will be conducted in the evening at your child's school with a small group of other parents. If possible, this will require approximately one hour of your time. As part of this discussion, you will be asked a series of questions regarding your thoughts and feelings about family influence on physical activity.

You will find a copy of the discussion questions attached with this letter. If you have any questions regarding this project please feel free to contact me at 250-952-1516 or email Janelle.Zebedee@gems2.gov.bc.ca. As well, my supervisor, Dr. Sandra Gibbons, may also be reached at 250-721-8383.

Sincerely,

Janelle Zebedee
Graduate Student
School of Physical Education
University of Victoria

Invitation For Child's Participation



As you may be aware of, your child's school is currently participating in the Action Schools! BC physical activity initiative. I am writing to invite your son/daughter to participate in a discussion to comment on their personal experience about family influence on physical activity behaviour. This project's aim is to assist elementary schools in developing individualized school action plans to promote healthy living. Currently, over 500 students in Richmond and Vancouver School Districts are being evaluated to determine the health changes that occurred as a result of participating in Action Schools! BC. As part of this project, we would like to invite your son/daughter to participate in a discussion to comment on their thoughts about the Action Schools! BC initiative, as well as their experience regarding family influence on physical activity. Research of this type is important because the benefits of regular physical activity to health have been well established. A better understanding of how families can be supported in their physical activity endeavors will help foster interventions and new ideas to promote physical activity, thereby enhancing the quality of life for children and their parents.

This focus group session will be conducted at your child's school during their lunch hour, with a small group of other children. If possible, this will require approximately one hour of their time. As part of this discussion, your son/daughter will be asked a series of questions regarding their thoughts and feelings about family influence on physical activity.

You will find a copy of the discussion questions attached with this letter. If you have any questions regarding this project please feel free to contact me at 250-952-1516 or email Janelle.Zebedee@gems2.gov.bc.ca. As well, my supervisor, Dr. Sandra Gibbons, may also be reached at 250-721-8383.

Sincerely,
Janelle Zebedee
Graduate Student
School of Physical Education
University of Victoria

Parent as Participant Consent Form

You are being invited to participate in a study entitled Family influence on physical activity behaviour: Exploring the influence of reciprocal relationships. This study is being conducted by Janelle Zébedee who is a Graduate Student in the department of Physical Education at the University of Victoria and you may contact her if you have further questions by emailing her at jaz@uvic.ca or telephoning her at 250-952-1516. As a Graduate student, I am required to conduct research as part of the requirements for a degree in Masters of Arts in Physical Education. It is being conducted under the supervision of Dr. Sandra Gibbons. You may contact my supervisor at 250-721-8383.

The purpose of this research project is to better understand the reciprocal relationship between parents and children's physical activity behaviour. Focus group sessions will examine the nature of parental influence on children's physical activity, as well as the influence of children on their parent's physical activity.

Research of this type is important because the benefits of regular physical activity to health have been well established. Statistics indicate however, that the majority of Canadian children and adults are physically inactive. A better understanding of reciprocal family influence on physical activity behaviour will help foster interventions and new ideas to promote physical activity, thereby enhancing the quality of life for children and their parents. You are being asked to participate in this study to comment on your personal experience about family influence on physical activity.

If you agree to voluntarily participate in this research, your participation will include attending one group interview, which will be approximately one hour in length. Participation in this study may cause some inconvenience to you, including loss of free time and the possibility of finding childcare in order to participate in the focus group session. There are no known or anticipated risks to you by participating in this research.

With your permission, the focus groups will be audio-taped. Please recognize that notes will be taken during the focus group and will be transcribed for further analysis. Only the researcher will have access to the tapes, transcripts, and consent forms. After the research has concluded, the data will be kept in a secured, locked cabinet for 5 years, after which it will then be destroyed. The information you will provide will be combined with other participants' data and at no time will individual names be used.

In terms of protecting your anonymity, the information you will provide will be confidential and anonymity will be maintained by using code numbers to identify the information obtained in the focus groups. You will be expected not to repeat what others in the focus group say and to keep other's comments confidential. However, recognize that you may not be anonymous to other participants of the focus groups, and that they will hear what you say.

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your comments will be removed from the transcript.

It is anticipated that the results of this study will be shared with others at the defense of the researcher's thesis presentation, scholarly presentations, and possibly in a published article.

In addition to being able to contact the researcher and her supervisor at the above phone numbers, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4545).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Name of Participant

Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Parents' Consent on Behalf of The Child Consent Form

Your child has been invited to participate in a study entitled Family influence on physical activity behaviour: Exploring the influence of reciprocal relationships. This study is being conducted by Janelle Zebedee who is a Graduate Student in the department of Physical Education at the University of Victoria and you may contact her if you have further questions by emailing her at jaz@uvic.ca or telephoning her at 250-952-1516. As a Graduate student, I am required to conduct research as part of the requirements for a degree in Masters of Arts in Physical Education. It is being conducted under the supervision of Dr. Sandra Gibbons. You may contact my supervisor at 250-721-8383.

The purpose of this research project is to better understand the reciprocal relationship between parents and children's physical activity behaviour. Focus group sessions will examine the nature of parental influence on children's physical activity, as well as the influence of children on their parent's physical activity.

Research of this type is important because the benefits of regular physical activity to health have been well established. Statistics indicate however, that the majority of Canadian children and adults are physically inactive. A better understanding of reciprocal family influence on physical activity behaviour will help foster interventions and new ideas to promote physical activity, thereby enhancing the quality of life for children and their parents. Your child is being asked to participate in this study to comment on their personal experience about family influence on physical activity.

If you agree that your child is able to voluntarily participate in this research, your child will attend one group interview, which will be approximately one hour in length. Participation in this study may cause some inconvenience to your child, including loss of free time and/ or class time. There are no known or anticipated risks to your child by participating in this research.

With your permission, the focus groups will be audio-taped. Please recognize that notes will be taken and will be transcribed for further analysis. Only the researcher will have access to the tapes, transcripts, and consent forms. After the research has concluded, the data will be kept in a secured, locked cabinet for 5 years, after which it will then be destroyed. The information that your child will provide will be combined with other participants' data and at no time will individual names be used.

In terms of protecting your child's anonymity, the information they will provide will be confidential and anonymity will be maintained by using code numbers to identify the information obtained in the focus groups. Your child will be expected not to repeat what others in the focus group say and to keep other's comments confidential. However, recognize that your child may not be anonymous to other participants of the focus groups, and that they will hear your child's comments.

Your child's participation in this research must be completely voluntary. If your child decides to participate, they may withdraw at any time without any consequences or any explanation. If they do withdraw from the study their comments will be removed from the transcript.

It is anticipated that the results of this study will be shared with others at the defense of the researcher's thesis presentation, scholarly presentations, and possibly in a published article.

In addition to being able to contact the researcher and her supervisor at the above phone numbers, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4545).

Your signature below indicates that you understand the above conditions of your child's participation in this study and that you have had the opportunity to have your questions answered by the researchers.

Name of Participant

Signature of Parent/Guardian

Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Child Consent Form

I understand that my parents (or guardian) have given permission for me to take part in a group interview about family influence on physical activity done by Janelle Zebedee, a Graduate Student at the University of Victoria.

My participation in this group interview is up to me, and I can stop at any time and I won't get in trouble (nothing will happen to me if I want to stop).

I understand that my name and comments will be kept private and that I will not talk about what other people in the group have said. I know that the group interview will be tape recorded, and that some notes will be taken.

Name of Participant

Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Appendix C: Profile of the Participants

Table 10.

Parent Profile

Age-Male (years) N=2	Males (ethnicity)	Age-Female (years) N=14	Females (ethnicity)
38	Indo-Canadian	47	Caucasian
42	Asian	41	Japanese
		46	Hispanic
		46	Caucasian
		41	Asian
		43	Chinese
		40	Caucasian
		39	Caucasian
		47	Caucasian
		36	Caucasian
		41	Chinese Canadian
		43	Caucasian
		40	Hispanic
		40	Chinese Canadian
Average Age: 40		Average Age: 42.14	
Combined Average Age: 41.88			
2 Asian			
1 Indo-Canadian			
7 Caucasian			
2 Chinese Canadian			
1 Chinese			
2 Hispanic			
1 Japanese			

Table 11.

Child Profile

Age-Male (years) N=12	Males (ethnicity)	Age-Female (years) N=14	Females (ethnicity)
12	Chinese Canadian	13	Chinese Canadian
12	Vietnamese Canadian	10	Indian
10	Chinese Canadian	12	Caucasian
11	Caucasian	10	Chinese/Japanese Canadian
10	Caucasian	10	Caucasian
10	Japanese Canadian	11	Caucasian
10	Caucasian	10	Indian
10	Japanese Canadian	11	Caucasian
11	Hispanic	11	Caucasian
11	Caucasian	11	Hispanic
11	Caucasian	10	Chinese Canadian
12	Chinese Canadian	12	Chinese Canadian
		12	Chinese Canadian
		12	Hispanic
Average Age: 10.83 years		Average Age: 11.07 years	
Combined Average Age: 10.96 years 7 Chinese Canadian 1 Vietnamese Canadian 2 Indian 10 Caucasian 2 Japanese Canadian 3 Hispanic 1 Chinese/Japanese Canadian			

Appendix D: Focus Group Interview Questions for Parents and Children

Table 12.

Focus Group Interview Questions For Parents

Reciprocal Determinism	Focus Group Question	Exploration of Social Cognitive Theory Constructs
	What or whom do you think influences your physical activity?	
Parent influence On Child		
	<p>How do you feel about physical activity?</p> <ul style="list-style-type: none"> • <i>Do you like it or dislike it?</i> • <i>Do you have to be good at it?</i> <p>Why do you think that physical activity is important for you? For your children?</p> <p>What has influenced you to think that physical activity is important?</p> <p>In what ways do you influence your child to be physically active?</p>	<p>Cognitive Self-Efficacy</p> <p>Cognitive Outcome Expectations</p> <p>Cognitive/Behavior? -Modeling</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion -Outcome Expectations</p>
Child Influence On Parent		
	<p>Describe to me your child's physical activity.</p> <ul style="list-style-type: none"> • <i>Do you see them doing physical activity?</i> <p>In what ways does your child influence you to be physically active?</p> <p>How has this made a difference in your personal physical activity?</p>	<p>Behavior -Modeling -Verbal Persuasion</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion</p>

Table 13.

Focus Group Interview Questions For Children

Reciprocal Determinism	Focus Group Question	Exploration of Social Cognitive Theory Constructs
	What or whom do you think influences your physical activity?	
Child Influence on Parent		
	<p>How do you feel about physical activity?</p> <ul style="list-style-type: none"> • <i>Do you like it or dislike it?</i> • <i>Do you have to be good at it?</i> <p>Why do you think that physical activity is important for you? For your parents?</p> <p>What has influenced you to think that physical activity is important?</p> <p>In what ways do you influence your parent to be physically active?</p>	<p>Cognitive Self-Efficacy</p> <p>Cognitive Outcome Expectations</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion -Outcome Expectations</p>
Parent Influence on Child		
	<p>Describe to me your parents' physical activity.</p> <ul style="list-style-type: none"> • <i>Do you see them doing physical activity?</i> <p>In what ways does your parent influence you to be physically active?</p> <p>How has this made a difference in your personal physical activity?</p>	<p>Behavior -Modeling -Verbal Persuasion</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion</p> <p>Cognitive/Behavior? -Modeling -Verbal Persuasion</p>