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Family Influence on Physical Activity: Exploring the Nature of Reciprocal Relationships

Influence de la famille sur l'activité physique: Pleins feux sur la réciprocité des liens

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This study was an exploration towards better understanding the reciprocal relationship between parents' and children's physical activity behaviour. Social Cognitive Theory provided a theoretical framework to investigate the nature of the family socialization process. Focus group interviews were conducted with 26 children and 16 parents to gain insight into the relationship and influence between parents' and children's choice to be physically active. The following themes emerged: success in doing physical activity, personal choice to be physically active, reciprocal family modeling, community and culture are models too, verbal persuasion of physical activity, asserting physical activity, health benefits of physical activity, enjoyment of physical activity, and social benefits of physical activity. Findings suggested that parents perceived they influenced their children's physical activity and that children perceived they influenced their parents' physical activity. The authors offer ideas for the incorporation of reciprocal family influence in the promotion of physical activity for both children and parents.

Cette étude explore les liens de réciprocité observés entre les comportements des parents et des enfants sur le plan de l'activité physique. La théorie cognitive sociale a servi de cadre théorique pour examiner la nature des procédés de socialisation des familles. Des groupes de consultation ont été établis et des entrevues menées auprès de 26 enfants et de 16 parents pour mieux comprendre les liens et les influences entre la décision des parents et celle des enfants de devenir physiquement actifs. Les grands thèmes suivants en ressortent : succès au niveau de l'activité physique, choix personnel d'être physiquement actif, modélisation familiale réciproque, modèles culturels et communautaires également, persuasion verbale de l'activité physique, affirmation de l'activité physique, bienfaits de l'activité physique pour la santé, plaisir tiré de l'activité

physique et avantages sociaux de l'activité physique. Les résultats révèlent que les parents croient exercer une influence sur le taux d'activité physique de leurs enfants, alors que les enfants croient exercer une influence sur le taux d'activité physique de leurs parents. Les auteurs suggèrent des façons d'intégrer l'influence réciproque des familles dans la promotion de l'activité physique au profit des enfants et des parents.

Introduction

The benefits of regular physical activity for people of all ages have been well documented. Health risks of inactivity include heart disease, high blood pressure, stroke, obesity, adult-onset diabetes, osteoporosis, and colon cancer (Warburton, Nicol, & Bredin, 2006). Despite this, a majority of Canadians are inactive (Canadian Fitness and Lifestyle Research Institute [CFLRI], 2009). Specifically, in 2007-2008, only 48% of Canadians aged 20+ years are at least moderately active (CFLRI, 2009). In addition, three out of five Canadian children and youth (ages 5 to 17) are not active enough for optimal growth and development (CFLRI, 2006). Adding to this, from 1981 to 1996, the prevalence of obesity in Canadian children has almost tripled (Tremblay & Wilms, 2000). This potential health crisis cannot afford to be ignored.

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). Thus the family could play a key role in influencing both child and adult physical activity levels. Parental support for physical activity and its relationship to children's physical activity has been explored in the literature and findings demonstrate a positive association (Gustafson & Rhodes, 2006; Van der Horst, Paw, Twisk, & van Mechelen, 2007). In their comprehensive review of parental correlates of child physical activity, Gustafson and Rhodes determined that "all but one of the studies reviewed showed that there is a strong positive correlation between parental support and child physical activity level" (p. 88). Additionally, a Canadian study involving youth from both high and low socioeconomic areas identified the important role that adults played in the provision of physical activity for all youth, regardless of socioeconomic status (Humbert et al., 2006). In consideration of this important role that adults play in youth physical activity, results suggested that "programs and initiatives that encourage them to be involved in youth physical activity should be developed" (Humbert et al., p. 481). Family intervention, as a means to increase physical activity, has also begun to receive attention by researchers. For example, the Daughters and Mothers Exercising Together (DAMET) project intervened with mothers and daughters to impact physical activity (Ransdell, Dratt, Kennedy, O'Neill, & DeVoe, 2001; Ransdell, Oakland, & Taylor, 2003b). Results showed that the family intervention increased the physical activity and health of both mothers and daughters (Ransdell et al., 2003b). Although research suggests that the family plays a primary role of socializing children into physical activity, typically, studies have ignored researching the nature of the influences and "the lived experience of socializees as well as socializing agents has not been adequately captured" (Greendorfer, 2002, p. 390). As well, Thompson et al. (2009) proposed that in order for physical activity interventions targeted at the child to be successful, they must incorporate the complex nature of the modern

day family. More recently, as a result of their systematic review of physical activity intervention studies and parental components, O'Connor, Jago, and Baranowski, (2009) suggested “there is a need to build an evidence base of more predictive models of child physical activity that include parent and child mediating variables and procedures that can effect change changes in these variables” (p. 141).

The purpose of this study was to explore the reciprocal relationship between parents’ and children’s physical activity. Bandura’s Social Cognitive Theory (1986) was used as a guiding framework. Social Cognitive Theory explains human functioning in terms of a triadic reciprocal model. An individual’s behaviour, cognition, and environmental influences all interact as determinants of each other. Taylor, Baranowski, and Sallis (1994), suggested that this theory could be used to explain the family perspective when the model of triadic reciprocity is expanded from one individual to two or more people. This expanded model (see Figure 1) illustrates the reciprocal interactions between the shared environment, parent behaviours and cognition, as well as child behaviours and cognition. An important consideration of this model is the influence of the child’s behaviour on the parent’s behaviour in the same manner that the parent influences the child’s behaviour. Bandura (1986) defined this relationship as mutual action between causal forces.

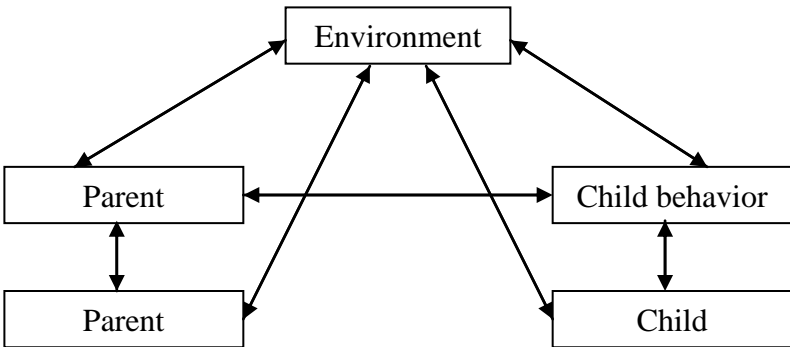


Figure 1. Parent and Child Reciprocal Interactions (Taylor et al., 1994).

At the core of Bandura’s (1986) Social Cognitive Theory, are self-efficacy beliefs. He defined self-efficacy as “peoples’ judgments of their capabilities to organize and execute a course of action required to attain designated types of performances” (p.391). Bandura (1986) identified three major sources of self-efficacy including mastery experience, vicarious experience, and social persuasion. Firstly, 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). Secondly, Bandura

considered vicarious experience (modeling) or observational learning as “one of the most powerful means of transmitting values, attitudes, and patterns of thought and behaviour” (p.47). According to Bandura, observational learning occurs when an observer exhibits new skills that prior to modeling would not have been displayed. Models are influential in “activating, channeling, and supporting behaviour of others” (Bandura, 1986, p.50). Social Cognitive Theory states that observing an appropriate model can weaken inhibitions. For example, if an observer recognizes that the model has no adverse effects from performing the behaviour, they too may be more motivated to display the same behaviour. Thirdly, Bandura (1986) believes that social persuasion, including verbal persuasion, is another influential source in increasing self-efficacy. He stated that “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). The value a person places on an outcome, referred to by Bandura as outcome expectations, may also predict an individual’s behaviour. Outcomes on their own however, do not do much in predicting behaviour, as “the types of outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations” (Bandura, p. 392). 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.

The following research questions were 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 of 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?

Methods

Recruitment

This study was part of a larger study that focused on the implementation of a ‘whole school’ model for promoting physical activity and healthy eating that was piloted in two large urban school districts in Western Canada. Its primary focus was to support elementary schools in developing individualized action plans to promote healthy living. The pilot study had representation from over eight different ethnic backgrounds and a variety of socio economic levels. The university human research ethics board and school districts approved the study.

Intervention schools (n=7) were contacted to see if they were interested in recruiting parents and their children to discuss the pilot study, which involved investigating family influence on physical activity. Five principals agreed to participate. Purposive selection of the participants was employed and principals recruited children and parents whom they felt would be interested and available but represented a broad spectrum of the school population (not only the highly active and involved parents or children). The child participants were required to be part of the pilot study and parents, either male or female, were required to be a biological parent or legal guardian of a child participating in the pilot study. Prior to participating in the study, parents and students provided written consent.

Participants

A total of 26 male (n=12) and female (n=14) grade 5 through grade 7 (average age= 10.96 years) students were interviewed in five focus groups. Further, a total of 16 parents (n=2 male and n=14 female) participated in four focus groups and one in-depth interview.

Data Collection

Data were collected using focus group interviews. This approach assisted in understanding the essence of the topic, and to “provide deeper understanding of social phenomena” (Silverman, 2002, p. 8). The focus groups were conducted in the library at each of the schools, to provide a location, which was familiar and convenient for children and parents. Location of a focus group “has psychological implications” (Stewart & Shamdasani, 1990, p. 57) and the familiar environment was chosen to enhance the attractiveness of the focus group. Travel time and proximity to home were also considerations, and sessions occurred during the school lunch hour to accommodate the schedules of both children and parents (work and family commitments). Consents were collected by the school principal and verified by the researcher on the day of the focus group.

The focus groups were audio-taped and questions were designed to explore Bandura’s (1986) concepts of self-efficacy and reciprocal determinism. Specifically, focus group questions addressed both behavioural and cognitive constructs, such as self-efficacy, modeling, verbal persuasion, mastery experience, and outcome expectations. Sample questions and probes for parent and child focus groups are shown in Table 1.

Table 1
Sample Focus Group Questions for Parents and Children

Reciprocal Determinism	Focus Group Question	Social Cognitive Theory Constructs
	What or whom do you think influences your physical activity?	
Parent influence on child		
	How do you feel about physical activity? • Do you like it or dislike it? • Do you have to be good at it?	Cognitive Self-Efficacy
	Why do you think that physical activity is important to you? For your children/parent(s)?	Cognitive Outcome expectations
	What has influenced you to	Cognitive/behaviour?

	think that physical activity is important? In what ways do you influence your child/parent to be physically active?	- Modeling Cognitive/behaviour? - Modeling - Verbal persuasion - Outcome expectations
Child influence on parent		
	Describe to me parents'/child's physical activity. • Do you see them doing physical activity? In what ways does your parent/child influence you to be physically active? How does this make a difference in your personal physical activity?	Behaviour - Modeling - Verbal persuasion Cognitive/behaviour? - Modeling - Verbal persuasion Cognitive/behaviour? - Modeling - Verbal persuasion

As suggested by Stewart and Shamdasani (1990), to make the focus groups workable within the time allocation there were less than a dozen probes used by the researcher. This guideline was also used to ensure there was sufficient attention to the research questions. General questions were first asked, and more specific questions followed.

Inductive Analysis

Audiotapes were transcribed verbatim to ensure trustworthiness of the data. Transcripts were then imported into QSR NVivo 2.0 qualitative software. The program enabled searching for themes, cross themes and relating them to other nodes, and created a template for organizing data (Creswell, 1998). The child and parent focus group transcripts were imported and organized as two independent projects. Content analysis enabled data from the focus groups to be analyzed and examined for meaning (Stewart & Shamdasani, 1990). Common themes, referred to as 'nodes' in QSR NVivo, were initially established based on the eight focus group questions. Themes and sub-themes were then displayed in a table to identify reoccurring themes and emerging relationships in the data. Reexamination of the two projects then occurred using QSR NVivo, which 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 according to Bandura's (1986) Social Cognitive Theory constructs (a priori framework for analysis). All of the data fit appropriately within one of the four constructs, and nothing was discarded. For each of the constructs, broad theme names were identified and the text units were grouped accordingly.

Assessment of Data Quality

Several techniques to ensure the accuracy and ‘trustworthiness’ of the findings were employed. As suggested by Marshall and Rossmann (1999), the following four criteria to assess data quality were followed. First, the goal of applying the construct of credibility 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 who 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. Revision and reworking of the themes until all cases fit.

Secondly, generalizability or transferability of the topic was limited to the participants of 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.

Thirdly, to maintain dependability, the researchers accounted for changes in the social context (Marshall & Rossman, 1999) by continuously challenging their understanding of the environment and regularly consulting with more experienced researchers to maintain dependability of the inquiry. Finally, techniques such as rechecking the data and peer reviewing with experienced researchers maintained confirmability of the findings. The findings and interpretations of the data were also supported by the constructs identified in Bandura’s (1986) Social Cognitive Theory.

Findings

The findings of the study were 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 2 provides an overview of the nine emerging themes.

Table 2
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

Construct: Mastery Experience

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.

The theme of Success in Doing Physical Activity reflects the mastery construct. 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. The following two quotes exemplify the theme of 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)

Theme 2: Personal Choice to be Physically Active

A second theme highlighted by the following quote linked mastery and personal choice.

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)

Participants commented on the importance of personal choice and associated this 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 behaviour. 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,

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.

Construct: Vicarious Experience

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

Theme 3: Reciprocal Family Modeling.

The opportunity for reciprocal family modeling was evident when parents indicated that their children were involved in a wide variety of positive physical activity experiences and when children 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 quotes illustrate the potential of positive observational learning while watching parents' and children's physical activities.

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 work out together. (Child)

In contrast, some comments showed potential for negative reciprocal influence.

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 [work].... 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)

Although the vicarious experiences illustrated in these comments did not indicate a negative experience, according to Bandura (1986), such experiences influence an observer to be less motivated and inhibited in their response.

As well, both parents and children stated they were models or sources of influence for each other. These following quotes demonstrate that parents and children perceive they have a role, through modeling, as a source of influence on each other's physical activity.

I think in another way ... 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)

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

In addition to both parents and children being models for each other, it is apparent that family, community, and culture (Theme 4) were also sources of observational learning for the parent and children focus group participants. Important models for parents included the media, medical practitioners, family upbringing, and cultural values. Further, a few parents reflected on less positive experiences and the lack of physically active models they had while growing up.

I 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)

Comments from the children demonstrated that other models for them included siblings, relatives, teachers, community coaches, and the media. Aside from the previously mentioned quotes regarding physically inactive parental models, none of the children mentioned other negative influences.

Construct: Social Persuasion

Bandura (1986) described 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.

Both parents and children commented on their ability to persuade, convince, and encourage each other to be physically active, illustrating the verbal persuasion theme.

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)

Parents indicated the importance of encouraging their children to find a physical activity that they enjoyed.

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."*

Although the majority of the children stated that they persuaded their parents to be physically active, two children felt they had no influence. Parents indicated that they 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.

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)

The reciprocal nature of the persuasion was evident and comments support the model proposed by Taylor, Baranowski, and Sallis (1994). 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. Similarly, parents also commented that their children's physical activity behaviour and verbal persuasion influenced their personal physical activity behaviour. 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 are [sic] 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.

Theme 6: Asserting Physical Activity.

The other theme that emerged within the construct of social persuasion was unique to the parents' data and addressed asserting physical activity. 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 that 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. This theme 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.

Interestingly, when children were questioned how their parents influenced their physical activity, their responses indicated they recognized their parents pushed 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....

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 [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 authority to influence their parents' physical activity.

Construct: Outcome Expectations

Although outcome expectations are not strong predictors of behaviour on their own, the value a person places on an outcome may predict an individual's behaviour (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. Three themes emerged: the health benefits of physical activity, enjoyment of physical activity and the social benefits.

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. The health benefits theme 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 the health benefits theme.

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.

Theme 8: Enjoyment of Physical Activity.

Another outcome expectation theme was enjoyment of physical activity. 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)

Parents also commented that physical activity was important for their children 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.

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.

The final theme that emerged from parent focus groups was the social benefits of physical activity. Parents revealed they valued physical activity 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.*” A parent who commented echoed this:

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.

Discussion

By applying the four constructs of Bandura’s (1986) Social Cognitive Theory (mastery experience, social persuasion vicarious learning, outcome expectations), 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 were consistent with the proposed Social Cognitive Theory constructs.

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 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 both themselves and their children. It follows that parents’ thoughts and feelings about their own confidence and experience in physical activity is important when considering the power of observational learning for children. 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 this research was 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 (Van Der Horst et al., 2007).

Also emerging from this study was support for the bidirectional influence between parent cognition and child behaviour. For example, child participants 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 behaviour. 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 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 a, b, c) the opportunity for family bonding and spending time together influenced parents' and children's physical activity. As an intervention grounded in Social Cognitive Theory, results "consistently supported the notion that the family provides powerful support of 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). The present study revealed that family physical activity might be influenced by encouraging families to participate in unstructured, non-sport specific physical activities. This finding is consistent with the recommendation by Thompson et al. (2009) that family-based interventions are likely to be more successful if they "accommodate the complex demands and needs of two-parent and single-parent families and provide affordable, diverse activities appealing to a wide range of interests" (p. 265). Future studies should consider these qualitative findings when planning a family intervention based on Social Cognitive Theory to increase physical activity.

Current literature has just begun to explore the potential of children's influence on their parents' physical activity. This study validates the need to focus research on understanding how children influence their parents' physical activity and on investigating the mechanisms of reciprocal determination with a larger more diverse population of parents and children. This information could serve as the foundation for further family interventions to increase physical activity in children and adults.

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