

# Physical Activity and Nutrition in Early Years Care Centres: Barriers and Facilitators

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## Abstract

Physical activity and good nutrition are key components of healthy living and reduce the risk of developing chronic diseases. Current research indicates that young Canadian children are not active enough for healthy growth and development (Temple et al., 2009). In addition their diets are lacking in fruits and vegetables, and excessively high in processed foods. Parents play a key role in establishing healthy behaviours; however early years professionals also have a strong influence, as many young children spend a large portion of their day in child care centres. This study aimed to use an ecological framework to identify specific factors (facilitators and barriers) that professionals in urban child care centres faced when promoting physical activity and nutrition. Seven urban child care centre professionals participated in one on one semi-structured interviews, with questions developed around McLeroy's (1988) ecological model. Reported facilitators and barriers were categorized using the ecological model at individual level (i.e., intrapersonal) or social environmental (interpersonal, institutional, community, and policy) level. The classification of factors into distinct categories was important, as this information can aid in designing initiatives that target

facilitators and alleviate barriers; in turn supporting Canadian children to establish health-promoting lifestyles and make healthy transitions from toddlers to adulthood.

## Introduction

Eating well and being active work together to promote healthy lifestyles for all ages (Health Canada, 2009). Early child development sets the foundation for an individual's subsequent health and general well being; thus the benefits of healthy living are most effective when established during early childhood (Black & Hurley, 2007; Keon, 2002). Despite the importance of establishing healthy behaviours in the early years (ages 1-5), research suggests that children under the age of 6 are not engaging in healthy physical activity patterns (Pate, Dowda, Trost, Almedida & Sirad, 2004; Temple, Naylor, McFayden, Rodes, Wolski & Wharf-Higgins, 2009). In addition, their diets are lacking in fruits and vegetables, and are excessively high in processed foods that have little nutritional value (Desrosiers & Bedard, 2006; Wilkinson & McCargar, 2008).

Parents and early years professionals are children's first teachers and role models. Therefore, they play a key role in establishing and determining lifelong physical activity and healthy eating patterns during these years (Segal & Gadola, 2008;

Timmons, Naylor, & Pfeirrer, 2007). Although parents play a key role in the development of children's behaviours and lifestyle patterns, over 50% of Canadian parents rely on non-parental care for their children (Bushnick, 2003). In addition there has been an increase in the use of child care centres over the last ten years, with children spending approximately 29 hours per week in care. Recent studies suggest that both early childhood education centres and early childhood educators have a large influence on children's physical activity and dietary patterns (Bower et al., 2008; Story, Kapin hingst, & French, 2006). Recently experts have emphasized that child care centres are ideal environments for understanding and exploring the health behaviours of children and their educators. In order to understand the educators' decisions to engage in behaviours that promote or discourage behaviours such as physical activity and healthy eating, it is necessary to identify the factors influencing their decisions (Naha, Goldfine, & Collins, 2003). These factors can be identified as barriers (factors that discourage behaviour) or facilitators (factors that encourage behaviour).

An ecological model is a conceptual framework that, assumes that multiple types of factors influence behaviour (McLeroy, Bibeau, Steckler, & Glanz, 1988). The ecological model designed by McLeroy and colleagues (1988)

uncovers personal factors and different levels of social environmental factors influencing behaviour. Previous research has used an ecological model to understand factors that influence an individual's decision to engage in health promoting behaviours (Gyurcsik, Spink, Bray Chad & Kwan, 2006; Humbert et al., 2006; Needham, Dwyer, Randal-Simpson & Heeney, 2007). By using McLeroy's ecological model researchers can group personal and social environmental factors (barriers and facilitators) influencing behaviour into the following five categories: intrapersonal, interpersonal, institutional, community and public policy. The classification of factors into specific categories is important because it allows barriers and facilitators to be analyzed at multiple levels and aids in the identification of interactions among these factors (Bauman, Sallis, David, Dzewaltowski & Owen, 2002).

To date an ecological framework has not been used to investigate personal and social environmental factors (barriers and facilitators) perceived by early years care centre workers in the provision of both physical activity and healthy eating for young children in their care. The purpose of our study was to identify the barriers and facilitators associated with the educators' decisions and abilities to promote physical activity and health. We used an ecological framework to identify and classify the perceived barriers and facilitators into one of the five categories outlined in McLeroy's model.

### Method

Through the use of qualitative methodology, the barriers and facilitators influencing decisions to provide and promote physical activity and healthy eating opportunities in early years care centres was obtained through semi-structured, one-on-one interviews. The study was approved by the University of Saskatchewan Research Ethics Board.

### Child Care Setting

The research took place in six urban childcare centres. Five were located inside a community facility such as a

school or physical activity complex and the sixth centre was located in a house that had been developed into a child care centre. Some centres were licensed to care for 25 children, where as other care centres were licensed to care for up to 40 children, with the average child to educator ratio of 4:1. One centre cared for infants/children ages 6 weeks to 6 years of age; however the majority of centres did not accept babies younger than 6 months of age. They were all equipped with their own kitchen and thus each centre employed a full time cook. Two of the six care centres were located near the downtown of the urban centre; the four remaining centres were located in residential neighbourhoods. All contained both indoor and outdoor areas.

### Participating Educators

Seven female educators from six centres in an urban centre in Saskatchewan participated in the study. Before contacting potential participants we obtained permission from centre directors. The directors were identified through their attendance at a board of directors meeting. A letter describing the study was distributed to the directors. If they were participating in the study, the directors were given an opportunity to leave their contact information with us. Following the meeting we contacted interested directors. Upon verbally granting their permission for participation in the study, we asked the directors to provide the educators with a brief overview of the study and what their role would be if they chose to participate. Additionally, the director was asked to emphasize that participation in the study was completely voluntary, and their choice to participate would not affect their job in any way. The directors identified those interested and the researcher then contacted the centre staff to arrange time (before hours, after hours, or during a break) for the interviews to take place.

In order to gather rich descriptive information, we used a semi structured interview guide, containing open-ended questions (eg., Does the physical environment play a role in determining whether

or not the children are active? Do behaviours of co-workers influence the eating patterns of the children?) The use of open-ended questions also allowed informants to provide their insights and opinions. The questions in the interview guide were developed around the ecological model; this is beneficial because it applies a systematic approach for data collection and analysis (Humbert et al., 2006). The interview guide contained prompts that were used to probe the participants for more detailed responses when necessary. Using an interview guide developed around an ecological framework, allowed barriers and facilitators identified by participants to be classified into one of five personal or social environmental factors.

The one-on-one interviews lasted about an hour and were carried out in a private room at the child care centres. We made every effort to create a relaxed and open atmosphere for the interviews. It was clear the centre workers were comfortable as they seemed excited to share their knowledge and experiences. The interviews were tape recorded to ensure that we had a thorough and accurate account of the participants' responses. Each participant was able to request that the tape recorder be turned off at anytime during the interview.

### Data Preparation and Analysis

The audio recorded interviews were transcribed verbatim. We arranged to meet with the participants following the transcription of the interviews. This meeting provided an opportunity for participants to comment on and revise their transcript. In order to confirm that we had accurately analyzed their transcripts, we discussed the key factors that we had identified with the participants. No major changes were made to the transcripts, nor were new factors identified following the second meeting. Once participants felt that the transcripts were accurate, they were asked to sign the transcript release form. No names or means of identification were used in any printed or published reports. Anonymity or protecting the participants' identities

was assured in the reporting and in any aspects of the study. Confidentiality of all data provided was assured.

We followed three steps to classify the barriers and facilitators identified by participants. First, the transcripts were read multiple times and meaning units such as words and phrases containing either a barrier or facilitator were identified; meaning units containing similar barriers and facilitators were then grouped together. Second, participants identified both personal (intrapersonal) and social environmental factors (interpersonal, institutional, community, and public policy) influencing their decisions; as such the researcher coded the barriers and facilitators as either personal or one of four social environmental factors. Third, some meaning units were reclassified and similar barriers and facilitators were grouped together to develop themes based on the participants' responses.

### Results

Seven key themes emerged from the five categories outlined in the model (see Table 1). We then selected supporting quotations to represent and illustrate the themes. It should be noted that the early years educators reported significantly more barriers than facilitators. Examples of specific factors identified by them are provided in Table 2 and exemplify the high number of barriers reported.

#### *Intrapersonal*

There were two themes perceived as promoting physical activity and health eating by the care centre workers in this study. The first theme, personal health and wellness, was identified by all educators and this was closely related to and influenced by the second theme, personal values and practices. It was evident that child care centre workers who valued and engaged in physical activity and healthy eating on a regular basis, were more likely to encourage these behaviours among the children. For example, one care centre staff explained that she understands the importance of engaging in healthy

**TABLE 1: SUMMARY OF FINDINGS**

| <i>Factor</i>                | <i>Theme (F= Facilitator B= Barrier)</i>  |
|------------------------------|---|
| Personal health and wellness |   |
| • Intrapersonal              | 1. Personal health and wellness (F)<br>2. Personal values and practise (F)                                    |
| • Interpersonal              | 3. Poor attitudes, Knowledge and practices of Co-workers (B)<br>4. Lack of parental support and knowledge (B) |
| • Institutional              | 5. Lack of Resources and Facilities (B)   |
| • Community                  | 6. Lack of Resources and Facilities (B)   |
| • Public Policy              | 7. Lack of Public Policy (B)  |

behaviours and had recently revamped her families eating habits and began to regularly engage in physical activities with the family. As result of these personal values and behaviours she now works hard to provide and promote physical activity and healthy eating among children at her child care centre. Thus personal physical activity and nutritional practices facilitated this care centre worker to engage in behaviours that promote physical activity and healthy eating.

#### *Interpersonal*

During the interviews all the child care centre workers provided a number of examples of barriers related to both co-worker and parental behaviors. Participants reported that their co-workers were not very comfortable participating in physical activity. The participants in this study stated that without the support and involvement of co-workers it was difficult to not only incorporate physical activity but also encourage the children to participate in the activities. The majority of workers described parents as being unresponsive to their requests to provide children with the appropriate clothing for playing outdoors. Moreover, it appeared as though parents were not concerned with how much physical activity their child

received. Instead, parents were more concerned with issues such as whether their child had gotten dirty that day.

Most child care centre workers felt that centre cooks and directors played the largest role in the provision of healthy eating opportunities. Directors would work with the cook to put together six week rotating menus based on government regulations. These regulations stipulated that snacks must contain foods from two food groups and meals must contain foods from all four food groups. As such, participants suggested that cooks and directors should receive training to provide them with the knowledge of what is needed to prepare healthy meals for the children. Additionally, child care centre workers often reported that children would not eat healthy foods such as vegetables and many dairy products because they were not introduced to these foods at home. Thus informants attributed parental behaviours and lack of knowledge as a barrier to the promotion of healthy eating practices in the child care centres. For example some parents complained that they could not get the children to eat healthy meals at home and they did not have the energy to argue with their children. As a result they often gave in to their children and served convenience foods that children liked, such as french fries and chicken fingers.

### ***Institutional***

Child care centre workers in this study identified lack of resources and facilities as a barrier to the provision of physical activity. Many of the centre workers in the study identified the combination of weather and lack of space as a barrier influencing their ability to provide physical activity opportunities for the children. Specifically their child care centre did not have an indoor physical activity facility they could use and when the weather did not permit them to go outdoors, they were unable to provide indoor activities. The budget at most care centres played a large role in determining the healthy eating opportunities that could be provided to early years children.

All care centre workers felt their centres would benefit from a resource, such as a book or online website with easy to make recipes that consisted of affordable ingredients. Additionally the recipes would be assessed by a nutritionist. Child care centre workers were clearly thinking about resources that could be easily accessed; as they reported that accessibility was necessary to ensuring that physical activity and healthy eating resources would be used to promote these practices within child care centres.

### ***Community***

The community factor that participants in the study found most constraining was also lack of access to resources and facilities within their neighbourhood and in the city. Specifically, a number of child care centre workers expressed their desire to have access to facilities in the community such as church or school gym. Most child care centres were located within walking distance of an elementary school, but if the centre workers wanted to use the gym in the nearby school they were required to pay for the use of the facility.

### ***Public Policy***

Child care centre workers expressed concerns about the lack of physical activity policies in early years care centres. All

**Table 2. QUOTATIONS PROVIDED BY EARLY YEARS CARGIVER**

| <i>Theme</i>  | <i>Quote</i>  |
|---|---|
| 1. Personal health and wellness (F)                         | "I am 52 years old and I go as hard and as strong as 20 year olds, I try to be a role model"  |
| 2. Personal values and practises" (F)                       | "If I'm not feeling up to getting dressed and all the effort to go outside to play, the kids don't feel like making the effort to get outside. You can tell that the mood of the teacher influences the mood of the kids"   |
| 3. Poor attitudes, knowledge and practices of coworkers (B) | "It is essential that you have a co-worker that is willing to do it, because you can't do it on your own. It takes a lot just to get the kids ready and to have that up attitude"   |
| 4. Lack of parental support and knowledge (B)               | "Some parents did not want the inside of their car to get dirty, so they asked us not to take to children outside during the muddy season"<br><br>"Many parents are busy and they prepare highly processed foods, as a result most children have developed a preference for fast food"  |
| 5. Lack of resources and facilities (B)                     | "If it's too hot all the kids get sick and you get sick and then if it's cold you can't do anything because the kids don't want to. They just want to stay inside and then you get the whole cabin fever feeling, because you have been inside for a week"  |
| 6. Lack of resources and facilities (B)                     | "We are a non-profit centre, and we don't have the extra resources or the extra funds at our disposal, so it would be great if we could use the community facilities for free"  |
| 7. Lack of public policy (B)                                | "We have guidelines about everything else, like cleanliness and nutrition, so it would not be a big step to implement guidelines for physical activity"<br><br>"Nutrition policies would be huge because if there is a policy then they are going to implement it and co-ordinators are going make sure we are implementing it" |

care centre staff reported that provincial nutritional policies were closely followed at their centres and this facilitated early childhood educators in providing healthy foods for children in their care. Informants felt it would be beneficial to develop and enforce provincial policies around the provision of physical activity in early years child care centres. The majority of participants interviewed felt the implementation of physical activity policies would increase co-worker involvement in physical activities within the centre. Additionally, centre workers thought that a provincial physical activity policy would increase parental awareness and understanding about the importance of establishing physical activity patterns in the early years.

### Discussion

The results of this study are consistent with previous research which shows that there are a number of factors affecting centre staff's ability to provide and promote healthy behaviours among young children in care (Needham et al., 2007; Greves, Lozano, Liu, Busby, Cole & Johnston, 2007). As indicated in Table 2 participants identified significantly more barriers than facilitators in the provision of physical activity and healthy eating opportunities in early years child care centres. The facilitators that were identified by centre staff pertained largely to intrapersonal factors, such as personal health and wellness and personal values. The participants reported being satisfied with their personal health and wellness, but were disappointed with their co-workers attitudes towards physical activity and healthy eating. For example, one of the most commonly cited interpersonal barriers in the current study was co-worker and parental lack of awareness, knowledge and understanding. Early childhood educators felt that their co-workers generally had negative attitudes and behaviours towards physical activity. As a result, they did not like to participate in physically strenuous activities with the children. Thus, children in their centre were not given many opportunities to be physically active. In regards to

healthy eating, lack of parental knowledge was a common concern reported among participants in this study. Participants felt that some parents put very little thought into ensuring that their children were developing healthy eating behaviours. Some parents complained that they could not convince their children to eat breakfast, so they stop at a gas station or a drive thru and purchase their children food before dropping them off at the child care centre. Clearly attempts to promote healthy eating in the centres were not supported by parents.

### Conclusion

The findings of our research are applicable to early years professionals, parents and researchers. This article provides insight and knowledge regarding factors that influence the provision of physical activity and healthy eating in urban early childhood educator centres. The findings of this study support the growing body of research which stresses not only the challenges, but also the importance of establishing health promoting behaviours during the early years (Keon, 2009). The data gathered can be used to develop targeted physical activity and healthy eating interventions in early childhood education centres. Specifically, interventions could be designed to incorporate the facilitators and alleviate the barriers identified by the centres. This would support early years professionals to promote and provide physical activity and healthy eating for children in their care. In turn, young children in care will be more likely to adopt physical activity and healthy eating patterns, thus fostering better health status in childhood and later in life. Future research should investigate factors perceived by educators in the provision of physical activity and healthy eating in a variety of early years environments. This information could then be used to support many types of professionals and thus the physical activity and healthy eating necessary to promote and provide physical activity and healthy eating opportunities during the early years. Opportunities could be provided to a larger number of young children.

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