Screen-related sedentary behaviours of school-aged children: Principals' and teachers' perspectives

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Abstract

Objective—To solicit school principals' and teachers' perspectives on children's screen-related sedentary behaviour and to identify possible solutions to reduce sedentary behaviours among school-aged children.

Method—In-person interviews using a semi-structured interview guide were conducted with school principals and grades five and six classroom teachers in 14 randomly selected elementary schools in London and Middlesex County, Ontario. Fourteen principals and 39 classroom teachers participated in the study. Inductive content analysis was performed independently by two researchers.

Results—Both principals and teachers were very concerned about children's excessive screen activities, but they did not perceive that they could play a key role in reducing these behaviours. Key barriers were identified to reducing screen-related sedentary behaviour and to children's active living both at and away from school. They included competing demands from other subjects, limited gym resources/space within the school, a lack of control over the home environment, and a perception that parents were poor role models. Notwithstanding the above barriers, principals and teachers still recommended increasing children's daily physical activity both within and outside of school hours. Furthermore, they stressed the need for parents to play a key role in reducing their children's screen-related sedentary behaviours and increasing their level of physical activity.

Conclusion—School principals and teachers were very concerned about excessive screen-behaviour among school-aged children when away from school and suggested that interventions

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should emphasize increasing daily physical education, promoting recreational sports at or away from school, and engaging parents in regulating screen time at home.

Keywords

sedentary behaviour; school personnel; children; physical activity

Introduction

Childhood obesity is a growing public health problem in Canada, and nearly a third of all Canadian children are either overweight or obese¹. Sedentary behaviour is one of the major factors contributing to childhood obesity; extensive television viewing and computer use are consistently associated with overweight and obesity in North American children^{2,3}. Limiting screen-related sedentary behaviours (S-RSBs) is seen as an important component for the prevention and treatment of childhood obesity^{2,4}.

Schools are a key setting for the delivery of intervention programmes that target the sedentary behaviours of children and adolescents^{5,6} because a large portion of a child's day is spent at school. In the school environment children are exposed to many existing physical resources such as gyms, food programmes/meal plans, outdoor playing areas, and both in- and out-of-school programmes that promote physical activity^{5,6}. School-aged children's health-related behaviours are predominantly influenced by their parents and educators. The active engagement of principals and teachers in obesity prevention and healthy bodyweight promotion in school-aged children is critical.

A comprehensive study was conducted in London, Ontario, Canada in 2005 to investigate school-aged children's screen-related behaviours. This paper reports school principals' and teachers' perspectives on children's S-RSB, perceived barriers, and their suggested solutions to reducing such behaviours. Other aspects of the study that describe the determinants of children's screen-related sedentary behaviours were reported elsewhere⁷.

Method

Semi-structured, in-person interviews were conducted using a qualitative approach. The Research Ethics Board at Brescia University College approved the study. Written informed consent was obtained prior to the interview.

Participants

Twenty-one schools were randomly selected from the 150 elementary schools in the Middlesex-London area. Of the 21 schools selected, 14 schools (67 per cent) agreed to participate. All school principals and all grade five and six classroom teachers from the participating 14 schools were invited to participate in an in-person interview.

Data collection

A trained Research Assistant conducted in-person interviews with each participant, using a semi-structured guide. Participants were asked questions about their perception of school-

aged children's S-RSB, children's physical activity patterns, what they believed could be done to overcome known or perceived barriers, and if they had any suggestions to promote a more active lifestyle among school-aged children. The interviews lasted approximately 15–20 minutes. The Research Assistant took detailed notes during each interview and also checked with each participant at the end of the interview to verify that the responses were complete and accurate.

Data analysis

Data were analysed using a combination of the editing and template organizing styles outlined by Miller and Crabtree⁸. Several techniques were used to promote the trustworthiness and credibility of the findings. To ensure credibility, member checking was done at the end of each interview to confirm that the interviewer correctly understood the responses from participants⁸. To ensure confirmability, inductive content analysis was performed independently and simultaneously by two researchers, who then met to compare and combine their independent analyses. A coding template evolved as the analysis proceeded that allowed for the identification and merging of key themes. This phase of the analysis was assisted by a computer software package (QSR Nvivo, version 2) to organize the data. A summary of the analysis was prepared and reviewed by a third team member who independently read all transcripts and debriefed with the interviewers.

Results

In total, 14 principals and 39 classroom teachers participated in the study. The initial 10 themes that emerged were organized into three key themes: (1) concerns over children's excessive S-RSBs, (2) key barriers to active living among school-aged children, and (3) strategies to promote physical activities among school-aged children.

Theme 1: Concerns over children's excessive screen-related sedentary behaviours

Both principals and classroom teachers were very concerned about children's excessive screen viewing activities while away from school, as well as the cognitive and physical health consequences that these behaviours bring about on children. Participants felt that physical activity was good for children, and they believed that children spent most of their time engaged in screen-related sedentary activities in their homes. Thus, they felt that parents held the greatest responsibility for their children's screen use, and they felt that there was not much that schools could do about this. See Table 1.

Theme 2: Key barriers to active living among school-aged children

The key barriers identified were competing demands from other subjects at school, limited gym equipment and space, a lack of control over the home environment, and a perception that parents were often poor role models for their children. See Table 2.

Theme 3: Strategies to promote physical activities among school-aged children

Both principals and classroom teachers recommended increasing physical education (PE) at school from twice weekly to daily, and they perceived the Board-sanctioned Quality Daily Physical Activity (QDPA) programmes as impractical to implement. They also suggested

that the duration of gym classes should be increased from 30 minutes to 45 minutes to ensure that there is adequate time for organized physical activity.

Participants emphasized the importance of non-competitive recreational sports for school-aged children. Several principals indicated that schools should play a key role in increasing physical activity opportunities, particularly non-competitive recreational sports within and outside of school hours. Furthermore, principals and classroom teachers stressed the need for parental involvement in promoting physical activity at and away from school. See Table 3.

Discussion

This study is the first of its kind to qualitatively document school principals' and classroom teachers' perspectives about children's S-RSBs. All participants expressed great concern that the children were engaged in excessive S-RSB while away from school and that such behaviours negatively impacted children's physical health and cognitive abilities. While participants believed that parents were the key regulators of children's sedentary behaviours, they noted that more needs to be done to reduce screen time at home. Participants offered practical suggestions to circumvent barriers and facilitate opportunities to increase physical activity in elementary school settings such as longer physical education classes that are held daily instead of only two days per week and supervised after-school recreational activities.

The principals and classroom teachers felt that excessive S-RSB is a family and societal problem which they have little influence over. They also felt that parents should serve as good role models for their children, a perception that is validated as parents and families play a key role in influencing most aspects of children's behavioural patterns⁹. In fact, our data indicated that sedentary activities primarily took place at home; children spent 3.4 hours per day engaged in S-RSB, and only 30 of these minutes occurred during school hours¹⁰.

Parental role modelling and a supportive home environment are key targets to reduce children's sedentary behaviours, and a number of recent studies in the United States and Australia have demonstrated that schools are also promising settings to reduce children's S-RSB and prevent excess weight gain^{11,12}. For instance, the Australian school-based intervention programme Switch-Play has demonstrated that a successful 10-month curriculum-based programme for school-aged children can effectively reduce overweight and obesity by promoting physical activity and reducing sedentary behaviours¹¹. The success of future school-based interventions, aimed at reducing S-RSBs, depends on the effective engagement of school officials, along with parents, in the planning process.

Study participants identified inadequate space for physical activity, competing curriculum demands, and limited gym equipment as barriers to physical activity in schools. These barriers were consistent findings from a study of elementary school PE teachers in Toronto, Canada, who demonstrated similar barriers to the full implementation of the Physical Activity curriculum guidelines. These barriers included competitive demands from both government and parents for high student performance on standardized tests in subjects other than PE, inadequate facilities, and insufficient equipment for physical activity¹³. Addressing

such system barriers requires decision makers from all levels of government, education, and public health sectors to work together toward societal, policy, and institutional changes that encourage greater support for physical activity in schools. For instance, a policy could be created that acknowledges that the achievement and maintenance of normal physical fitness scores, as measured by students' fitness scores, could carry similar/the same academic weight as other subjects. Also, sustained long-term funding needs to be secured to provide the necessary resources to allow daily physical activity to become a reality for all school-aged children.

School principals and teachers suggested increasing physical education classes at school from twice weekly to daily. In Canada, the Quality Daily Physical Education Program encourages schools to implement a minimum of 30 minutes of physical activity on a daily basis¹⁴. Furthermore, the Ontario Ministry of Education recently required that every elementary student must take part in a minimum of 20 minutes of sustained moderate to vigorous Daily Physical Activity (DPA) that is incorporated into the instructional day in a variety of ways. Teachers felt it was hard to incorporate 20-minute blocks of physical activity. They also suggested that DPA is impractical to implement, due to other curriculum demands and scheduling. They would prefer that gym classes be increased from twice per week to daily and that these classes last for 45 minutes, instead of 30 minutes, to allow for adequate set-up time. To make DPA a reality, it is imperative that decision makers understand the challenges and barriers that schools face, and that they encourage further exploration of practical implementation strategies for physical activity.

Participants suggested that the best way to encourage life-long active lifestyles among children was to support non-competitive skill building and to develop recreational sports skills. Thompson suggested that organized, regulated, and competitive sports hold little appeal for children¹⁵. Instead, spontaneous individual sports and activities such as biking, dancing, and skating are more popular¹⁵. Participants appear to agree with this notion since they also suggested ways to promote recreational sports among school-aged children. For example, the supervision of recreational activities in schoolyards and gyms outside of school hours by parents and community volunteers was perceived to be a key facilitator of physical activity. To support such efforts, the Ontario Government has provided funding in recent years to help school boards make school space accessible and affordable to communities and to further encourage children to develop healthy and active lifestyles; however, cited barriers include liability for personal injury and damage to school property.

A limitation of this study was that only the principals and grade five and six teachers were interviewed. In addition, these interviews were not tape-recorded and transcribed verbatim.

In summary, school principals and teachers were very concerned about excessive S-RSBs among the school-aged children at home; however, they did not perceive that they could play a greater role than parents or guardians in reversing the trend toward a less 'screenogenic' environment. Nonetheless, they did feel that they could play an important role in planning and implementing interventions that emphasize increasing daily physical education and promoting non-competitive recreational sports. They also stressed the importance of

engaging parents in regulating screen time at home and promoting physical activity both at home and at school.

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Table 1**Concerns over children's excessive screen-related sedentary behaviours****Cognitive and physical health consequences:**

"TV and computers are almost addictive, not intellectually stimulating..."

"Fitness of kids is decreasing, their social skills are weak... (they have) difficulties talking to peers... their problem solving skills are poor..."

"MSN is a tool for gossip"

"(It is) difficult for kids to play board games due to lack of social skills ..."

Physical activity is good for children:

"(Physical activity is) good for kids"

"Kids need it (physical activity, PE)"

"Attention of kids is better on PE days"

"Kids are excited about gym"

The home environment:

"Home is more of an influence (on screen viewing and physical activity) than school."

"Schools cannot take on responsibilities for what goes on at home, teachers have the potential to come down hard on students about what they 'should' be doing but yet kids often have little control over what goes on at home."

Table 2

Key barriers to active living among school-aged children

Competing demands at school:*"(There are) too many other curriculum demands"**"PE should be increased but difficult because of other subject needs"***Limited resources:***"No resources for gym, limited availability (of the gym)"**"...Gym is not big enough..."***Home/Parental Influence:***"Home is more of an influence on screen viewing and physical activity..."**"Schools cannot take on responsibility for what goes on at home..."**"Parents often use TV and computers as a babysitting tool"*

Table 3

Strategies to promote physical activities among school-aged children

Daily PE at school:*"PE should be every day, not just twice a week"**"PE should be mandatory at elementary and secondary (school) level with increased emphasis on skill development for recreation."**"30 minutes is too brief to get kids organized for physical activity, 45 minutes would be better"***QDPA, good but impractical:***"Kids were resistant to QDPA at first, now prefer it to other subjects"**"(I would prefer) less QDPA, instead make gym better, QDPA is not realistic"***Importance of and ways to facilitate recreational sports:***"Increase participation but decreased skill emphasis..."**"Increased emphasis on skill development for recreation; currently too much emphasis on team sports; target overweight kids by developing programs designed for them considering they are not as naturally athletic..."**"Shift to novelty (activities) instead of instructional"**"We built a skating rink (at school), very popular with students"***Parents' involvement:***"Parental supervision is needed regarding content and physical activity choices"*