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School Health Promotion Policy in Nova Scotia: A Case Study

Étude de cas : Politiques de promotion de la santé à l'école en Nouvelle-Écosse

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Abstract

In response to the growing concern of children's health, many local governments have responded by implementing health promotion policies that support a health promoting schools (or comprehensive school health) approach. The purpose of this study is to explore the context and nature of policies that relate to health promoting schools in Nova Scotia. The results revealed that a number of policy initiatives had been developed (N= 348) at the provincial level (n=53) and across school districts (n=295). The policy scan demonstrated that there were many supportive policies at different levels of jurisdiction but incongruence of priorities and enforcement practices between the province and school districts. To optimize the impact of health promotion policies, different levels of jurisdictions need to work together and support the implementation of policies that support a health promoting schools approach.

Résume

Compte tenu des inquiétudes croissantes entourant la santé des enfants, plusieurs paliers de gouvernements se sont dotés de politiques de promotion de la santé à l'école qui souscrivent à l'approche des écoles axées sur la promotion de la santé (aussi appelée l'approche de santé

globale dans les écoles). Cette étude s'est intéressée à l'encadrement et à la nature des politiques qui sous-tendent l'approche des écoles axées sur la promotion de la santé en Nouvelle-Écosse. Les résultats ont démontré que plusieurs projets d'élaboration de politiques ont été lancés (N= 348) à l'échelle provinciale (n=53) et au niveau des districts scolaires (n=295). Un survol de ces politiques a révélé que même si chaque palier de gouvernement s'est doté de politiques favorables en ce sens, leurs priorités et leurs modes d'application varient selon qu'elles relèvent de la province ou des districts scolaires. Pour maximiser l'impact de ces politiques sur la promotion de la santé, la province et les districts scolaires doivent collaborer et appuyer l'implantation de politiques au service de l'approche des écoles axées sur la promotion de la santé.

Introduction

Schools have been recognized globally as being an essential setting to support healthy behaviours (Centers for Disease Control and Prevention, 1996; Centers for Disease Control, 1997; Stone, McKenzie, Welk, & Booth, 1998; Story, Nanney, & Schwartz, 2009; Wechsler, Devereaux, Davis, & Collins, 2000). In particular, a Health Promoting Schools (HPS) approach is increasingly being adopted as a comprehensive strategy to support health in schools. HPS is also known as Comprehensive School Health or Coordinated School Health. The model of HPS is adapted from recommendations by the World Health Organization (WHO); specifically there is a focus on fostering health and learning, engaging all school partners (i.e., staff, students, parents and community), providing a healthy environment that supports health and implementing healthy policies and practices (World Health Organization, 2006). Historically, health education in schools has been addressed in the classroom using a topic approach (i.e. physical activity, healthy eating and mental health) whereas HPS offers a more holistic a 'whole school' approach that complements classroom curriculum. For example, teaching and engaging students in school gardening, establishing an inclusive school food program or incorporating physical activity into classroom curriculum. This approach shifts the focus from individual student behaviours to establishing a health enhancing school environment (Wechsler et al., 2000). As a result of the shift in emphasis, HPS requires a new way of thinking about health and the role of the school (World Health Organization, 2006).

School priorities are dependent upon direction set by policies from higher-level jurisdictions. Traditionally, the priorities of the education system are focused on academic excellence rather than health promotion (Evenson, Ballard, Lee, & Ammerman, 2009; Kelder et al., 2009; Lytle et al., 2003). This emphasis on academic success can restrict political action of provincial education authorities in the domain of health (Langille & Rodgers, 2010; Lytle et al., 2003; Nollen et al., 2007). Therefore, support for HPS requires leadership and guidance from policies by governing authorities (Lytle, Ward, Nader, Pedersen, & Williston, 2003). There is evidence to suggest that HPS helps to support both health and educational outcomes in schools (Dobbins et al., 2001; Lister-Sharp, Chapman, Stewart-Brown, & Sowden, 1999; Moon et al., 1999; Stewart-Brown, 2006; St Leger, Young, Blanchard & Perry, 2010). Recent literature on educational change has suggested that supporting health and wellness could be included in educational reform. Hargreaves and Shirley suggested that reform could consider self, family, peer-related, or health-based wellbeing along with the typical educational priorities of literacy and numeracy (Hargreaves & Shirley, 2009).

In Canada, the majority of federal policy action with respect to health in schools focuses on collaboration with local (provincial/territorial) governments to improve health policy within the public education system. Although Canada does not have a federal school health or wellness policy, the Pan-Canadian Joint Consortium for School Health brings together key representatives from each jurisdiction's health and education ministries/departments, and supports them to work more closely together to support health promotion in schools using a comprehensive school health framework (Joint Consortium for School Health, 2010). However, the ultimate responsibility and authority for school health-related regulation rests at the provincial jurisdictional level. In response to the growing concern regarding children's health, several provincial and territorial governments have responded and implemented provincial-level school-based health promotion policies (Joint Consortium for School Health, 2010). The *Nova Scotia Health Promoting Schools (NSHPS)* initiative is a partnership led by the Department of Education and the Department of Health and Wellness (formally Department of Health Promotion and Protection), and comprises its school districts, health authorities and community members (Province of Nova Scotia, 2010b). Since 2005, funding for NSHPS has been provided to support the development and implementation of a HPS approach across the province. Physical activity and healthy eating were the initial focus of NSHPS, however, the intent of the partnership is for schools to take a comprehensive approach and address a range of issues based on their own unique contexts. Regional partnerships between health and education were fostered to develop a framework and plan for HPS that considers local assets and needs. Provincial funding has been distributed across regions based on these plans (Province of Nova Scotia, 2010b).

Over the past five years, the Nova Scotia Government has demonstrated their commitment toward improving the health of children by developing a variety of policies and programs, which offer a unique opportunity to evaluate the impact of policies and programs. However, little is known about the extent to which these policies facilitate implementation and adoption of health promotion in schools. The purpose of this study is to explore the context and nature of policies that relate to HPS in the province of Nova Scotia. In the absence of a federal policy relating to health promotion in schools, this study focused on policies developed by the Nova Scotia Provincial Government and its eight public school districts. A better understanding of existing health promotion policies will help reveal gaps and redundancies which in turn may guide the formulation and prioritization of new policies to support improved health promotion practices in schools.

Methods

Terminology

For the purposes of this research, policies are broadly defined as courses of action endorsed, implemented and resourced by the Nova Scotia Provincial Government or by one of their eight public school districts that include a combined total of 420 schools (Province of Nova Scotia, 2010a). These policies could include directions for action, guidelines, strategies, strategic plans, priorities and resource allocations. We used a policy framework proposed by Schmid et al. (Schmid, Pratt, & Witmer, 2006), to support the further definition of policies into four distinct categories (Table 1): formal policies or acts, written standards, programs and strategies (Schmid et al., 2006; Spicker, 2006).

Table 1. Definitions of policy categories.

Formal policy or acts: Written codes, regulations or decisions bearing legal authority
Written standards: Guidelines or standards that inform choices of activities or professional practice.
Program: Activities that have specific objectives

A variety of health promotion topic issues were explored in this study (Table 2). Although there are many different areas of health promotion relevant to schools, those used in this study are based on a background paper from the International Union for Health Promotion and Education (St Leger et al., 2010).

Table 2. Definitions of health promotion topics.

Mental health: Initiatives in schools that seek to build the social, emotional and spiritual wellbeing of students to enable them to achieve education and health goals and to interact with others.

Substance Use and Misuse: School-based drug reduction initiatives that are interactive rather than teacher-centred and focus on life skills.

Hygiene: Initiatives that support hand washing, drinking clean water and using proper sewage systems.

Sexual health and relationships: Education programs that are conducted by trained and empathic educators and focus on the sexual health and relationships of students.

Healthy eating and nutrition: Initiatives and programs that follow evidence-based teaching practices to support healthy eating behaviours of students.

Physical activity: Initiatives that include the development of skills and knowledge, establishing and maintaining suitable physical environments and resources and upholding supportive policies to enable all students to participate throughout the school day.

Safety: Practices that are implemented and maintained to ensure the physical and emotional safety of students and staff.

Procedures

This research received ethical approval through the University of Alberta Health Research Ethics Board as part of a broader project. This policy research study sought to identify relevant policies and factors related to their implementation in schools (Schmid et al., 2006) using a policy scan. Similar to other health promotion policy research, this policy scan consisted of three iterative steps: a web search, document scan and follow-up interviews with key stakeholders (Chriqui, Tynan, Agurs-Collins, & Masse, 2008). First, the Provincial Government and school district websites were scanned for policies relating to health promotion in schools. Website search engines, policy manuals and other policy-relevant documents were searched for keywords relevant to the health promotion topics. Policies were included if they were applicable to a policy category and had a direct (facilitating behaviours) or indirect (addressing barriers to behaviour) influence on a health promotion topic. Policies were excluded if they were not adopted, revised or implemented between 2003 and 2010. This timeline was chosen because of recent policy and research activity. Information retrieved was summarized into a database according to policy-related variables. Specifically, each policy was coded by category and health promotion topic (see Table 1 & 2). Each policy was defined by one category but health

promotion topics were not mutually exclusive. Instead, policies could be coded across various health promotion topics if they satisfied the definitions.

The second step of the policy scan was to consult with key stakeholders to verify information and clarify gaps following the web and document scan. A purposive, snowball sampling approach (Trochim, 2001) was used to identify stakeholders (key informants) across the province. Identified stakeholders were asked to participate in a brief individual or partner interview to clarify policy information. Altogether, twenty-six key informants participated in the study (N=26). Specifically, six (n=6) provincial stakeholders and twenty (n=20) district stakeholders took part. The district stakeholders included twelve (n=12) across the public school districts and eight (n=8) across the district health authorities. Individual and group interviews (determined as appropriate for the particular stakeholders) were conducted by the lead author and followed a semi-structured guide that focused on verifying the policy information. For example, stakeholders were prompted with examples of policies found in the scan and were asked to clarify aspects related to development, implementation and enforcement. Stakeholders were also asked if there any specific policies they felt helped to support the goals of HPS. With consent, interviews were audio-recorded. Interviews were transcribed and information was directly added to the policy database. The same procedures were used in the francophone school district with the assistance of a francophone research assistant.

Data Analysis

Throughout the stage of summarizing and coding, the research team worked iteratively to ensure all information was included. Two co-authors independently scanned the documents, coded the variables according to the four policy categories and health promotion topics and met to discuss differences. Agreement was achieved through consensus and verified through further discussions with key stakeholders. Our descriptive analyses included frequency tables and cross tabulations (used in version SPSS 15.0) of provincial and school district policies to describe the nature of policies according to their category and their support toward health promotion topics.

Results

According to our comprehensive scan, numerous policies have been developed in Nova Scotia over the past seven years that support health promotion in schools. A total of 348 health promotion policies related to schools were in place at the provincial level (n=53) and across the eight public school districts (n=295). At the provincial level, a range of policies was developed across the four policy categories. There were similar percentages of written standards, programs and strategies (17, 15 and 13% respectively) but formal policies (55%) were much more frequently developed (Figure 1).

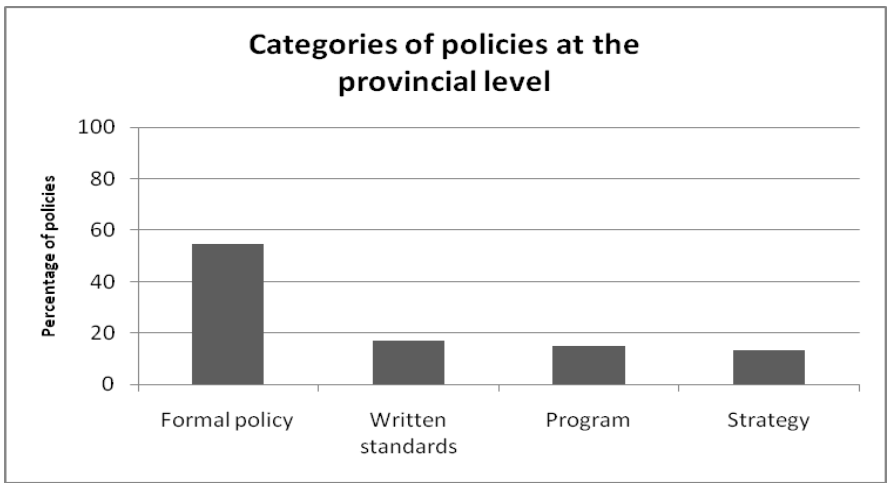

Figure 1. Percentages of policies coded across policy categories at the provincial level.

There were also a range of policies across health promotion topics; safety (25%) and mental health (20%) were most frequent, followed by physical activity (13%) and healthy eating (12%). Hygiene, substance use and misuse and sexual health and relationships (11, 9, 8% respectively) were the least frequent categories (Figure 2).

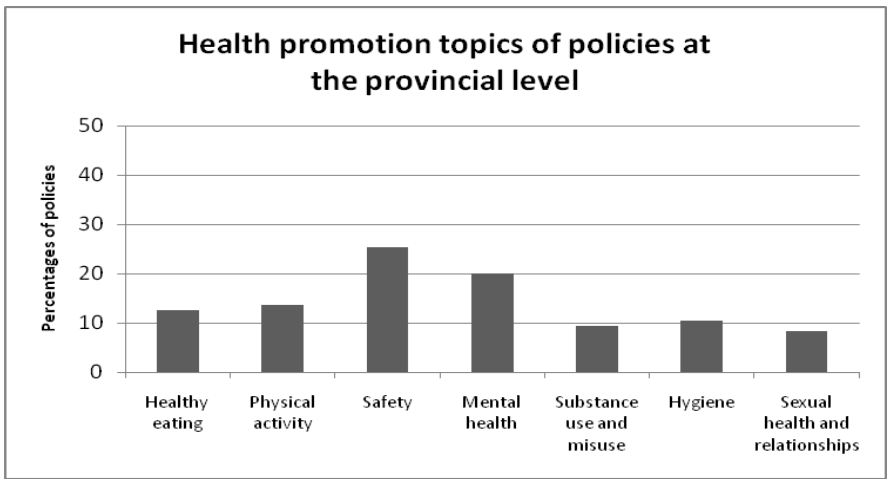

Figure 2. Percentages of policies coded across health promotion topics at the provincial level.

At the school district level, the vast majority of policies were formal in nature (95%) with specific criteria of how they should be implemented in schools. The remaining polices were categorized as either written standards (3%) or programs (2%) (Figure 3).

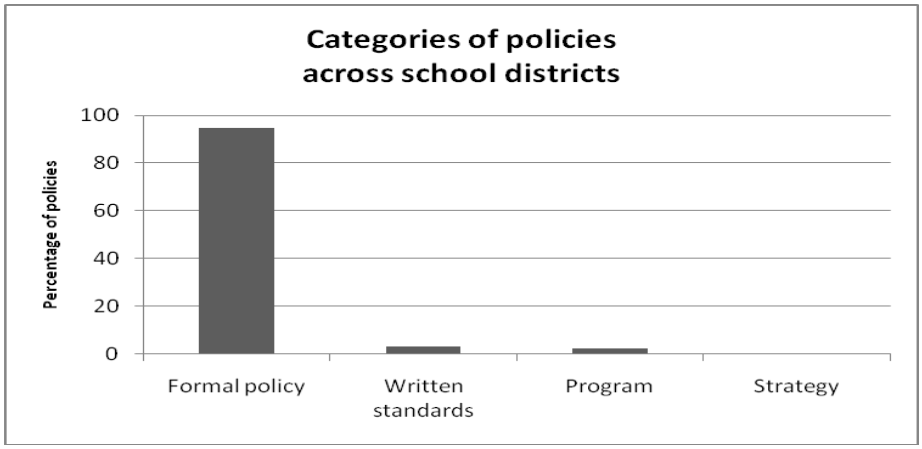

Figure 3. Percentages of policies coded across policy categories across school districts.

The most frequent policies at the school district level focused on the topic of safety (50%). The next frequent coded as mental health, physical activity, healthy eating and substance use and misuse (17, 11, 8, 7% respectively). Hygiene (4%) and sexual health and relationships (2%) were the least frequently coded (Figure 4).

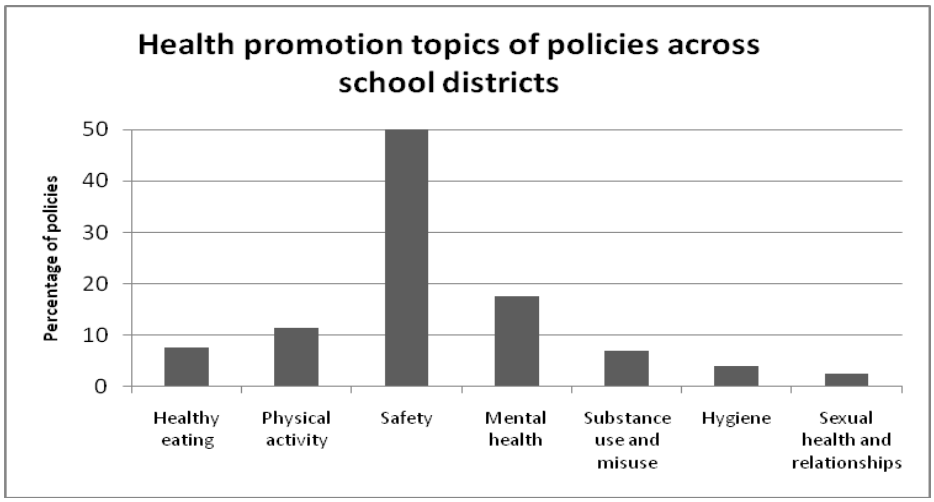

Figure 4. Percentages of policies coded across health promotion topics across school districts.

The stakeholder interviews provided additional context to how the policies may help to support a HPS approach. At the provincial level, there were several key strategies that both directly and indirectly supported health promotion in schools. For example, *Healthy Eating Nova Scotia* and *Active Kids, Healthy Kids* are provincial strategies to address nutrition and physical activity opportunities across multiple settings, including schools. As previously mentioned, *NSHPS* is an approach that provides direct support to enable schools to support health promotion. These strategies and approaches have resulted in the provision of various health promotion resources to enable implementation of comprehensive school-based initiatives across the Province. However, the majority of formal policies and written standards developed at the provincial level seemed to have more of an indirect influence on health promotion in schools as a

result of a lack of strict criteria and monitoring. For example, the Education Act (Office of the Legislative Counsel, Nova Scotia House of Assembly, 1996) is a formal written enactment of legislation that was enacted by the Province of Nova Scotia. This act provides criteria to ensure that the school system provides education programs that enable students to develop their potential and contribute to a healthy society. Although there is a mention of health in the purpose of the Act ("to enable [students] to develop their potential and acquire the knowledge, skills and attitudes needed to contribute to a healthy society and a prosperous and sustainable economy") there are no criteria for how this should be achieved (Office of the Legislative Counsel, Nova Scotia House of Assembly, 1996). Furthermore, there are written standards (i.e., curriculum documents and supplements) that guide the implementation of health and physical education curricula but no strict time requirement nor monitoring of curriculum implementation. Importantly, one example of a recent formal policy is the *Food and Nutrition Policy for Nova Scotia Public Schools* (Province of Nova Scotia, 2006). This policy provides specific standards for foods and beverages served and sold in schools, directives for school eating practices such as pricing, programming and advertising and guidelines that encourage schools to foster community partnerships and support local food products. However, similar to policies relating to other health promotion topics, there is no provincial protocol in place to monitor adherence.

One key finding was that typically, the policies related to safety had more detail with respect to the expected adherence compared to other health promotion topics, especially at the school district level. For example, all school districts had a formal policy related to life-threatening allergies (or anaphylaxis); student discipline or codes of behaviour; protection of students (i.e. child abuse, harassment); and student transportation. These policies had specific criteria to guide implementation in schools; however, there was often little detail about how they would be monitored by the district. Relative to provincial direction, there were several school districts that had formal policies in place to enforce the provincial food and nutrition policy but few had a formal policy related to physical activity. At the time of data collection, only one school district had a formal policy, with specific guidelines, to support the implementation of the provincial health promoting school approach (two others were under review). The other school districts addressed the provincial approach through a program or strategy. The content of HPS related policy documents tended to be vague with respect to it would be implemented and monitored in schools.

Discussion

This case study provides understanding around the scope and range of health promotion policies influencing schools in the province of Nova Scotia. Our results demonstrated that the Provincial Government has implemented various health promotion policies across category types and health promotion topics; however, these policies were rarely enforced nor monitored in schools. Comparatively, school districts almost exclusively focused on formal policies and provided specific standards to guide implementation, especially related to the topic of safety. Although this is consistent with the provincial *Education Act*, which delineates the responsibility of local policies and procedures to local school districts, the lack of enforced formal policies (and subsequent monitoring) at the provincial level limits the impact of comprehensive health promotion initiatives on school practices and students (Chriqui, O'Connor, & Chaloupka, 2011; Langille & Rodgers, 2010).

Recent policy research has demonstrated the importance of high-level direction in supporting the implementation of health promotion policies in schools. In particular, McKenna et al. suggested that when implementation of a school food policy was left to the discretion of individual schools, there was a smaller and more inconsistent impact on school food (McKenna, 2003). The stakeholder interviews in this study also corroborated the documented challenge of academic pressures weakening the impact of health promotion policies in schools (Langille & Rodgers, 2010; Lytle et al., 2003; Nollen et al., 2007). In a review of one health promotion policy, Robertson-Wilson and Lévesque (2009) suggested that sustainability of resources, the extent to which the policy is valued, and evaluation plans required additional attention to ensure optimal implementation of related policies (Robertson-Wilson & Lévesque, 2009). Our findings advance the school policy discourse by suggesting that school districts were more likely to implement regulatory health promotion policies related to "safety", than other aspects of health promotion (i.e. policies that promote improved health behaviours or a comprehensive school health approach). This could be due to the legal implications associated with these types of policies, compared to policies that promote improved health behaviors and a broader HPS approach.

This study provides evidence of the existence of health promotion policies in the province of Nova Scotia and sheds light onto the large scope of health promotion policies and initiatives that schools must consider in their everyday practice. Despite a range of supportive policies at different levels of jurisdiction, there was some incongruence between the health promotion priorities of the province and school districts and differences in enforcement practices. To optimize the impact of health promotion policies, all jurisdictions need to recognize the established relationships and inherent philosophy of HPS that emphasizes the connection between health and learning (Dobbins et al., 2001; Florence, Asbridge, & Veugelers, 2008; Lister-Sharp, Chapman, Stewart-Brown, & Sowden, 1999; Moon et al., 1999; Stewart-Brown, 2006; St Leger et al., 2010; Wang & Veugelers, 2008). Policies also need to be harmonious and robust (i.e., monitored) across supporting health promotion topics. Finally, as provinces/territories and school districts continue to take a more comprehensive school health approach to health promotion, research will be needed to understand the determinants and outcomes of policy (Schmid et al., 2006) so as to reinforce the growing knowledge-base and support implementation of supportive policies in schools (St Leger et al., 2010; Tang et al., 2009; Veugelers & Fitzgerald, 2005; Wechsler et al., 2000).

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References

Biddle, S. J. H., Gorely, T., & Stensel, D. J. (2004). Health-enhancing physical activity and sedentary behaviour in children and adolescents. *Journal of Sports Sciences, 22*(8), 679-701.

Centers for Disease Control. (1997). Guidelines for school and community programs to promote lifelong physical activity among young people. *Morbidity and Mortality Weekly Report, 46*, 1-36.

Centers for Disease Control and Prevention. (1996). Guidelines for school health programs to promote lifelong healthy eating. *Morbidity and Mortality Weekly Report, 45*(RR-9), 1-41.

Chriqui, J. F., O'Connor, J. C., & Chaloupka, F. J. (2011). What gets measured, gets changed: Evaluating law and policy for maximum impact. *Journal of Law, Medicine & Ethics, 39 Suppl 1*, 21-26.

Chriqui, J. F., Tynan, M., Agurs-Collins, T., & Masse, L. C. (2008). Will web-based research suffice when collecting U.S. school district policies? The case of physical education and school-based nutrition policies. *International Journal of Behavioral Nutrition and Physical Activity, 5*, 64.

Dobbins, R. N., Lockett, D., Michel, I., Beyers, J., Feldman, L., Vohra, J., & Micucci, S. (2001). *The effectiveness of school-based interventions in promoting physical activity and fitness among children and youth: A systematic review.* Ontario: Effective Public Health Practice Project.

Evenson, K. R., Ballard, K., Lee, G., & Ammerman, A. (2009). Implementation of a school-based state policy to increase physical activity. *Journal of School Health, 79*(5), 231-238.

Florence, M. D., Asbridge, M., & Veugelers, P. J. (2008). Diet quality and academic performance. *Journal of School Health, 78*(4), 209-15.

Hargreaves, A., & Shirley, D. (2009). *The fourth way: The inspiring future for educational change*. Thousand Oaks, CA: Corwin: A SAGE Company.

Joint Consortium for School Health. (2010). *Joint consortium for school health: Governments working across the health and education sectors.* Retrieved July 6, 2010, from http://eng.jcsh-cces.ca/

Kelder, S. H., Springer, A. S., Barroso, C. S., Smith, C. L., Sanchez, E., Ranjit, N., & Hoelscher, D. M. (2009). Implementation of Texas Senate Bill 19 to increase physical activity in elementary schools. *Journal of Public Health Policy,* S221-S247.

Kremser, W. (2011). Phases of school health promotion implementation through the lens of complexity theory: Lessons learnt from an Austrian case study. *Health Promotion International, 26*(2), 136-147.

Langille, J. L. D., & Rodgers, W. M. (2010). Exploring the influence of a social ecological model on school-based physical activity. *Health Education & Behavior, 37*(6), 879-894.

Lister-Sharp, D., Chapman, S., Stewart-Brown, S., & Sowden, A. (1999). Health promoting schools and health promotion in schools two systematic reviews. *Health Technology Assessment, 3*(22), 1-207. Retrieved from http://health-evidence.ca/articles/show/16127

Lytle, L. A., Ward, J., Nader, P. R., Pedersen, S., & Williston, B. J. (2003). Maintenance of a health promotion program in elementary schools: Results from the CATCH-ON study key informant interviews. *Health Education & Behavior: The Official Publication of the Society for Public Health Education, 30*(4), 503-518.

McKenna, M. L. (2003). Issues in implementing: School nutrition policies. *Canadian Journal of Dietetic Practice and Research, 64*(4), 208-213.

Moon, A. M., Mullee, M. A., Rogers, L., Thompson, R. L., Speller, V., & Roderick, P. (1999). Helping schools to become health-promoting environments: An evaluation of the Wessex healthy schools award. *Health Promotion International, 14*(2), 111-122.

Nollen, N. L., Befort, C. A., Snow, P., Daley, C. M., Ellerbeck, E. F., & Ahluwalia, J. S. (2007). The school food environment and adolescent obesity: Qualitative insights from high school principals and food service personnel. *The International Journal of Behavioral Nutrition and Physical Activity, 4*, 18.

Office of the Legislative Counsel, Nova Scotia House of Assembly. (1996). *Education Act.* Retrieved July 6, 2010, from http://nslegislature.ca/legc/statutes/eductn.htm

Province of Nova Scotia. (2006). *Food and Nutrition Policy for Nova Scotia Public Schools.* Retrieved July 20, 2010, from http://www.ednet.ns.ca/healthy_eating/

Province of Nova Scotia. (2010a). *Nova Scotia directory of public schools*. Retrieved July 16, 2010, from http://ns-schools.ednet.ns.ca/

Province of Nova Scotia. (2010b). *Nova Scotia health promoting schools*. Retrieved July 6, 2010, from http://nshps.ca/

Robertson-Wilson, J. E., & Lévesque, L. (2009). Ontario's daily physical activity policy for elementary schools: Is everything in place for success*? Canadian Journal of Public Health, 100*(2), 125.

Schmid, T. L., Pratt, M., & Witmer, L. (2006). A framework for physical activity policy research. *Journal of Physical Activity and Health,* 3(Supplement 1), S20-S29.

Spicker, P. (2006). *Policy analysis for practice: Applying social policy*. Bristol, Great Britain: Policy Press.

Stewart-Brown, S. (2006). *What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach*? Copenhagen: World Health Organization Regional Office for Europe.

Stone, E. J., McKenzie, T. L., Welk, G. J., & Booth, M. L. (1998). Effects of physical activity interventions in youth: A review and synthesis. *American Journal of Preventive Medicine, 15*(4), 298–315.

Story, M., Nanney, M. S., & Schwartz, M. B. (2009). Schools and obesity prevention: Creating school environments and policies to promote healthy eating and physical activity. *Milbank Quarterly, 87*(1), 71-100.

St. Leger, L., Young, I., Blanchard, C., & Perry, M. (2010). *Promoting health in schools: From evidence to action*. Saint Denis Cedex, France: International Union for Health Promotion and Education.

Tang, K. C., Nutbeam, D., Aldinger, C., St. Leger, L., Bundy, D., Hoffmann, A. M., . . . Arnaout, S. (2009). Schools for health, education and development: A call for action. *Health Promotion International, 24*(1), 68-77.

Trochim, W. M. K. (Ed.). (2001). *The research methods knowledge base* (2nd ed.). Cincinnati, OH: Atomic Dog Publishing.

Veugelers, P. J., & Fitzgerald, A. L. (2005). Effectiveness of school programs in preventing childhood obesity: A multilevel comparison. *American Journal of Public Health, 95*(3), 432-435. doi:10.2105/AJPH.2004.045898

Wang, F., & Veugelers, P. J. (2008). Self-esteem and cognitive development in the era of the childhood obesity epidemic. *Obesity Reviews: An Official Journal of the International Association for the Study of Obesity, 9*(6), and 615-623.

Wechsler, H., Devereaux, R. S., Davis, M., & Collins, J. (2000). Using the school environment to promote physical activity and healthy eating. *Preventive Medicine, 31*(2), S121-S137.

World Health Organization. (2006). *What is a health promoting school*? Retrieved from http://www.who.int/school_youth_health/gshi/hps/en/print.html