Bringing Policy and Practice to the Table: Young Women's Nutritional Experiences in an Ontario Secondary School

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Abstract

In recent years, media, health organizations and researchers have raised concern over the health of Canadian children and adolescents. Stakeholders have called on the government to confront the problem. Schools are seen as an ideal location for developing and implementing large-scale interventions because of the ease of access to large groups of children and adolescents. Within Ontario, new nutrition policies, such as the School Food and Beverage Policy (Ontario Ministry of Education, 2010) have been implemented, in an attempt to change the current health status of children and adolescents. The purpose of this study was to examine the eating behaviours and nutrition knowledge of young women in an Ontario secondary school. Twenty semi-structured interviews with young women between the ages of 14 and 17 years old were used to examine the reproduction, negotiation and resistance to the nutrition messages received by the young women within the school environment. The interviews revealed the influence parents have on the nutrition knowledge and behaviours of their children, the inability of adolescents to apply learned nutrition knowledge and the ineffectiveness of the school environment in influencing eating behaviours.

Keywords: nutrition education, school nutrition policies, young women, nutrition knowledge, eating behaviours

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Introduction

In recent years, the media, politicians, government agencies and researchers have raised concerns over the current health and body shapes of children and adolescents (Active Healthy Kids, 2012; CBC News, 2009; Hodgson, 2012). Fear and concern over an 'obesity epidemic' has been propagated in the minds of the public through a number of vehicles and has resulted in the implementation of a number of physical education policies (Evans, Davies, & Wright, 2004; Evans, Rich, Davies, & Allwood, 2008; Gard & Wright, 2001). For Canadian youth, 12 to 17 years old, a recent Statistics Canada report classified 20.9% of girls and 18.9% of boys as overweight while 9.6% of girls and 10.7% of boys were classified as obese (Roberts, Shields, de Groh, Aziz, & Gilbert, 2012). Although data used for documenting the 'obesity epidemic' is over 30 years old, concern over the 'epidemic' is a relatively new phenomenon and corresponds to neoliberal discourses of monitoring and self-regulation (Gard & Wright, 2005). The use of the term 'obesity epidemic' is called into question because the research to support the notion is considered by some academics to be flawed or exaggerated due to poor methodology, analysis, misleading facts, et cetera (Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2006; Gard & Wright, 2005). Media and health professionals often refer to past generations as being more active and eating well. This forms the foundation for their arguments that 'modernity' and current 'Western lifestyles' are making people 'fat' (Gard & Wright, 2005). The message relayed by health professionals and media is that Canadian youth are eating too much and not engaging in enough physical activity (Active Healthy Kids, 2012; Branswell, 2012). Youth are often considered unable to monitor their behaviours therefore the responsibility shifts towards the parents and schools (Kirk & Spiller, 1994).

Review of the Literature

To contextual the study, it is important to understand the eating behaviours of Canadian adolescents and establish the landscape of nutrition education in Ontario schools. The literature review is separated into three sections. The first section presents the eating behaviours of Canadian adolescents in order to understand the current situation. The second section examines health and physical education policy and outlines the latest policies in Ontario schools. Lastly, the role of school nutrition programs and students exposure to nutrition education in Ontario secondary schools is discussed.

Eating Behaviours of Canadian Adolescents

The most recent edition of Canada's Food Guide was developed using an analysis of simulated diets in a Canadian context to ensure that individuals who follow the guide, meet the recommended daily intakes for all essential nutrients (Katamay et al., 2007). Within the guide, food is categorized under four major headings: fruits and vegetables, grain products, dairy products, and meat and alternatives. Each category is assigned recommended daily servings that one should meet for optimum health based on an individual's age and sex. For adolescents between the ages of 14 and 18, the Canadian Food Guide recommends 7-8 servings of fruits and vegetables, 6-8 servings of grain products, 3-4 servings of milk and alternatives and 2-3 servings of meat and alternatives. A 2004 Canadian Community Health Survey suggests many Canadian adolescents are not meeting the recommended guidelines. The survey concluded that males

between 14 and 18 years old consume 4.87 servings of fruits and vegetables, 2.64 servings of milk products, 7.98 servings of grain products, and 229 grams of meat products. Whereas females consume 4.45 servings of fruits and vegetables, 1.82 servings of milk products, 5.74 servings of grain products, and 136 grams of meat products (Garriguet, 2004).

Within the Canadian Food Guide, a category is labelled as 'other,' for foods that do not fall under the four major categories. 'Other foods' are generally processed foods, which are high in fat, sugar, or salt. For adolescents aged 14 to 18, 25% of all their daily calories come from these 'other foods' (Garriguet, 2004).

Snacking is a common practice for adolescents. Food and drinks consumed between meals account for more calories than most adolescents eat at breakfast and about the same number of calories as what they would consume at lunch. Forty-one percent of snack calories come from the 'other foods' category (Garriguet, 2004).

Schools, Governance and Health and Physical Education Policy

Schools are institutions of governance and pedagogy, where children receive messages about how they can become responsible, productive citizens and avoid becoming a burden on society (Burrows & Wright, 2007). Schools are seen as an ideal site for developing and implementing large-scale interventions because they are holding pens for large numbers of children (Burrows & Wright, 2001; Evans & Davies, 2004; Gard & Kirk, 2007). Schools are thought to be on the front lines in the 'war on obesity'. Educational policies are being created to monitor students bodies, to enlist physical education classes; to get students fit; cafeterias to monitor and serve healthier foods; and curriculum to warn students of the dangers of obesity (McMahon, 2011). In Ontario, according to the Ontario Ministry of Education [OMoE] (2010), the *School Food and Beverage Policy* outlines all nutrition standards for food and beverages sold in schools, the *Daily Physical Activity in Elementary Schools Policy* (OMoE, 2005) outlines the requirements for 20 minutes of daily physical activity, and the *Trans Fat Regulation* (OMoE, 2008a) outlines bans trans fat from Ontario schools. Furthermore, the health and physical education curriculum in Ontario elementary schools outlines the nutrition information, teachers are expected to instil in their students.

School Nutrition Programs

Within Ontario, health and physical education is mandatory for all students until grade 9. The Ontario curriculum has specific nutrition knowledge and healthy eating practices expectations from kindergarten to grade 8 but, it is not part of the curriculum in grade 9 (Ontario Ministry of Education and Training, 1998). Nutrition and healthy eating is reintroduced to students in the Grade 10 curriculum but, this course is not mandated for all students (Ontario Ministry of Education and Training, 1999a). Dwyer et al. (2006) surveyed high school students across Ontario and found that 98% of the secondary school students take Grade 9 physical education but this number drops to 50% by Grade 10. Although nutrition education is also part of the curriculum in senior science courses as well as social science courses, these courses are not mandatory (Ontario Ministry of Education, 2008b, 2013). This suggests that a large proportion of secondary school students may not be exposed to nutrition and healthy eating information after grade 8.

A school's philosophy, nutrition policies, role modelling of the staff, and consistency of

messages plays a role in the effectiveness of school nutrition programs (Dixey et al., 1999). These aspects may be considered the 'hidden curriculum' and are sometimes overlooked. Studies have shown educational strategies that have a clear behaviour focus and are theory-driven are more likely to succeed (Lytle & Achterberg, 1995). Therefore, the nutrition messages delivered should be consistent between the curriculum taught in class and the school environment. Furthermore, reward systems or fundraisers should not be contradictory to the nutrition messages. Schools that provide mixed messages about nutrition such as selling chocolate bars as a fundraiser may confuse students with contradictory messages (Ellis & Ellis, 2007).

Educational researchers often overlook food and nutrition education within schools because it is not viewed as a topic of interest or urgency (Weaver-Hightower, 2011). However, with the implementation of new nutrition policies in Ontario schools, it is important to examine the role schools play in student's nutrition knowledge and eating behaviours. The purpose of this study was to examine the eating behaviours and nutrition knowledge of young women in an Ontario secondary school. The study examined the reproduction, negotiation and resistance to the nutrition messages within the school environment.

Theoretical Framework

Biopedagogy was used to understand and analyze the data collected in this study. Biopedagogy can be understood as a range of instructions on "*bios:* how to live, how to eat, how much to eat, how to move, how much to move" (Harwood, 2009, p. 15). Shilling (2005) offers that body pedagogies construct intrinsic, embodied subjectivities that serve as corporeal orientations to individuals. Particular social meanings are constructed about health and influence behaviours. Simply, it is the pedagogy of *bios* (Harwood, 2009). It encompasses the instructions individuals receive about their bodies and lifestyle choices from media, public health officials, government organizations, et cetera (Wright, 1996). The premise of biopedagogy goes beyond the concept of health and 'being well'. Biopedagogies provide instructions about health risks while requiring individual and population surveillance. It assigns citizens' responsibilities and encourage self-monitoring of health behaviours (MacNeill & Rail, 2010, p. 179).

Methodology and Data Analysis

A suburban secondary school (grades 9-12) located in a mid-sized city in southern Ontario was used as the location of the study. Research ethics clearance was obtained from the district school board and the school principal. All young women within the school (~ 400) were invited to participate in the mixed methods study. Ninety students completed a questionnaire on eating behaviours and nutrition knowledge and twenty students completed interviews. This article focuses on the qualitative analysis of the interview data. Participants were selected for semi-structured interviews based on their availability, willingness to be interviewed and parental consent. The interviews were conducted over the course of one month in 2009, with 20 young women between the ages of 14 and 17 years old. The interviews lasted between 15 and 30 minutes and took place in a private room within the school, during the school day. Policy and document analysis was performed on curriculum documents from the Ontario Ministry of Education (1999a, 1999b), course outlines, and teaching materials, including tests, class notes, activities, handouts, and textbooks (Blake et al., 2002; Bowers, Eichorn, Siverman, de Souza, &

Young, 2002; Kowtaluk, 2000). These were collected from the secondary school teachers to put context to the statements made by participants.

Within qualitative research, interviews can provide meaning about a person's experience as well as their interpretation of social events and phenomena (Ary, Cheser Jacobs, Sorensen, & Razavieh, 2010). Patton (1990) suggests, "interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be explicit" (p. 278). Semi-structured interviews allowed for active dialogue and conversation between the author and participants. Interviews were conducted with participants until common themes and data started to emerge. All interviews were recorded and transcribed. Participants' comments have been included verbatim unless otherwise indicated. Pseudonyms have been used to protect the participants' identities.

Interview data were grouped into themes and broad idea categories. From these identified concepts, a coding system was used to categorize the data. Each sentence of the transcripts with text segments was assigned a code word or phrase to accurately describe its meaning. If a text segment did not have a particular meaning related to the data analysis, it was not given a code. After the entire transcript was coded, Excel was used to sort the codes in alphabetical order. This assisted in the identification of themes, patterns, and categories.

The interview data was coded into the following themes: family, friends, school cafeteria, curriculum, knowledge, definitions of health; and health literacy. Utilizing a biopedagogical framework as a foundation, the interview data was analyzed and interpreted to explore the young women's experiences. Three consistent themes emerged from the participants and resulted in the data being grouped into three distinct sections. The first section focuses on the influence of parents on the young women. The second section examines the knowledge and level of health literacy achieved by the participants. The final section examines the impact of the school environment.

Discussion and Findings

Influence of Parents

The influence of parents on the nutrition knowledge and eating behaviours of the participants was evident in their responses. Parents may have an effect on their children's eating behaviours and nutritional choices in a number of different ways. Past studies suggest parents may impose their own food preferences, beliefs and attitudes towards food on their children (Birch, Zimmerman, & Hind, 1980; Crockett & Sims, 1995). Parental presence can also have an impact on an adolescent's eating behaviours. Videon and Manning (2003) found adolescents whose parents were present for the evening meal had a higher consumption of fruits, vegetables and dairy products. Participants spoke about differences in their eating behaviours when their parents were present compared to when the participants were on their own or with their peers. "We usually eat dinner together, but it doesn't always happen because of sports or work. I definitely eat healthier with them [family] than on my own because I will just eat whatever on my own" (Cindy). The participants would not only eat the food provided to them by their parents but would also learn eating behaviours and food choices as part of the meal process. Through this, the participants would become cognizant about food choices and eating behaviours. These biopedagogical instructions also assist in constructing social and cultural meaning to these behaviours and what is expected or required.

Parents usually purchase the food for the home and therefore, the availability of food may reflect parental food preferences or eating behaviours (Birch & Fisher, 1998). Participants spoke about the influence of parents on the food purchased for the home. "When I go grocery shopping with my mom, I get to pick whatever fruits and vegetables I want but she always makes me put the junk food that I pick back" (Samantha). Jennifer stated, "we never have chips in my house. My mom won't buy it. It's always like 'go have like dried mango' or something like that. Or we have whole wheat or 12-grain bread instead of white bread." Although most participants spoke of having some influence in what was purchased for the home, they may be overruled or provided with an alternative option. As Samantha expressed, "in the end, my mom has the final say on everything we buy." These parental behaviours subtly provide instructions to the young women about what foods the parents consider acceptable and alternative choices for the ones they do not.

Participants receive and negotiate messages about self-monitoring and their responsibility in self-surveillance from their parents. Participants commented about parental behaviours towards monitoring their body weight. "My mom has done weight watchers so she is always telling me what is healthy and what we should and shouldn't eat so we don't gain weight" (Shannon). Other monitoring behaviours the participants were taught, dealt with parental health issues. Participants spoke about messages they received from their parents about what eating behaviours are required to address their parents' health issues. "We have to watch what we eat because of my dad's heart. We don't eat dessert, and we have to make sure we don't eat fatty foods" (Lisa). The biopedagogical messages participants receive at home may be different from the messages received at school. This may make it difficult for to negotiate or resist the different health messages. Shannon stated, "I learn one thing from school, and another from my parents and I don't know what is right." Nutrition education is not confined to the walls within a school. The *School Food and Beverage Policy* (OMoE, 2010) does not consider the role and influence of parents on the messages young women receive from them.

Applying the Knowledge

Health education runs on the premise that as students become more knowledgeable, they adopt, they adopt healthy living life-styles (Seedhouse, 1997). Knowledge is also thought to change attitude which in turn changes behaviour (Kelly, 1998). The students receive biopedagogical instructions about health and healthy eating through the course curriculum delivered by the course teachers. In Canada, the Provincial government is responsible for the development and delivery of educational policy. Each Provincial government creates curriculum documents which outline the knowledge and skills for each particular subject area. The interpretation of the curriculum documents and the pedagogy may vary between classroom teachers.

When asked about what information they learned in school, the participants reproduced answers about basic nutrition facts and knowledge that they learned at school. Sam stated, "I know I need to eat fruits and vegetables every day and follow Canada's Food Guide." Kate suggested that it is healthy to "not eat a lot of fat and to eat lots of fresh foods." While Jess defined a healthy eater as "someone who cuts down on like saturated fats and trans fats and doesn't eat preservatives or frozen food. Eats fresh fruit and less fast food." The participants' comments are a reproduction of the biopedagogical instructions they have received about what it required to be healthy. These instructions align with the curriculum documents and health messages provided by government agencies (Government of Canada, 2015).

Within the school, the teachers used Canada's Food Guide as a teaching tool. Participants received a copy of Canada's Food Guide as well as completed an assignment about using the guide. The acknowledgement by participants of Canada's Food Guide as a source of nutrition information reflects the use of this guide as instructions to the students about what is required of them for healthy eating. The participants' statements also reflect that the participants achieved a functional level of health literacy (Nutbeam, 2000). At a functional level of literacy, an individual is able to recite factual information and have an awareness of some health risks and health services (Nutbeam, 2000). The participants' awareness of Canada's Food Guide demonstrates their understanding of health organizations and resources provided. However, the use of Canada's Food Guide may be problematic. Although the most recent version of the Food Guide can be modified to include foods from other cultures, the focus is still a traditional Western European cultural diet. Students are taught that if they follow the Food Guide, they will be 'healthy' because they are making healthy food choices. In addition, students are taught that food can be categorized as 'good' (i.e. fruits and vegetables) or 'bad' (i.e. fried foods) (Evans et al., 2008). As a result, students may equate Western European cultural foods as being healthy and feel unsure as to how their own cultural food fits into the dichotomy of classifying foods. This pedagogical approach provides students with a very narrow view of what constitutes a 'healthy' diet.

Participants expressed frustration that the information presented in school was basic facts and not skills that could be used outside the school environment. Kate described her experience with learning nutrition in schools as "doing a lot of worksheets which made the class really boring. I didn't learn much because we were just given the information and didn't do anything with it." Jennifer echoed these comments, "we were told what was good for you and sort of what was bad for you but weren't really told why or how we could figure it out." Most of the participants did not feel that the information taught in schools had an impact on their eating behaviours because it was not meaningful or related to their lives. "I haven't changed anything about how I eat because it doesn't matter to me; I still eat what I want" (Kate). The nutrition information presented in schools was deemed by some participants as just more information they needed to learn to pass a test or complete an assignment. The young women did not consider the information as something they could incorporate into their lives and did not use the information outside of class.

Participants who wanted to change their eating behaviours felt inadequately prepared because they did not have sufficient knowledge to make healthy food choices. Even participants who felt they did have an appropriate amount of knowledge still struggled to apply it outside the school environment. Heather declared:

> I'd like to learn more about the details and what things do for the body. We learned a brief overview about carbs and proteins and fats, but they don't go into the details or specifics about what is actually going on when we eat really fatty stuff or high sugar stuff. I don't know exactly what's going on in my body when I eat something that's really bad. If I did, maybe I wouldn't eat it.

The participants stated that the method in which information is presented in school is not conducive to changing their eating behaviours outside the school environment. Kate stated:

> We don't learn a lot about restaurants and what choices you should be making at restaurants and what choices you should not be making at restaurants for example 'cause I know like if you buy Wendys' salad it has just as many

> calories as a burger but like I didn't learn that in school, we're not taught enough about that. So people just eat what they want because they don't know.

The participants were given information about nutrition and eating behaviours, but they were not able to take the information from the classroom context to the outside environment. The participants were unable to achieve an interactive or critical level of health literacy (Nutbeam, 2000). An interactive level of health literacy requires individuals to have a more advanced cognitive understanding and literacy skills which combine with one's social skills to assist individuals in being able to extract information from one situation, and apply to different circumstances. Although the participants were able to recite basic nutrition information and biopedagogical instructions, they struggled to apply the information. The participants' knowledge allowed for the reproduction of health information, but they struggle to negotiate different health messages. Current nutrition policies may assist students in developing some basic knowledge, but they are unable to translate this into practice.

The School Environment

The school environment can have an impact on young women's eating behaviours as students spend six to seven hours a day at school and consume a majority of their energy within the school environment (Fox et al., 2002). If students do not bring their lunch to school, they have the option to purchase something from one of the school's vending machines or the school cafeteria. In September 2011, the *School Food and Beverage Policy* was implemented in Ontario schools which limits the types of food available in Ontario elementary and secondary schools' vending machines and cafeteria (OMoE, 2010). Foods are only available for purchase if their nutritional content falls within the government-imposed guidelines. Prior to 2011, restrictions only existed within Ontario elementary schools. The restrictions on foods provide biopedagogical instructions to the students about what foods and nutritional content the government deems is appropriate for the population. The policy was praised by nutritionists and thought to assist students in making healthier food choices and getting students to eat healthier food. However, the policy has resulted in decreased cafeteria sales and students fleeing schools for outside food establishments to purchase food (Infantry, 2012; Rushowy, 2012).

The young women were asked about their thoughts on restricting food within the school environment prior to its implementation in Ontario secondary schools. The young women spoke about resisting these controls over their eating behaviours by leaving school to purchase food because of the cost and types of food available. Samantha stated, "my friends and I go out to eat at lunch because the food in the caf isn't very good and it's expensive." While Jessica suggested her peers would rather bring food from home or purchase it from a nearby store, "the foods in the caf aren't what I want, we [her friends] go to the store or I bring them from home." Fast food restaurants and convenience stores are often built close to schools and provide students with ample opportunity to purchase these beverages outside the school environment (Austin et al., 2005). Rather than being an eating establishment students avoid, the school cafeteria could be an environment that would support students in developing healthy eating behaviours. With the students leaving the school environment, they receive biopedagogical instructions and messages from the fast food restaurants and convenience stores instead of the schools. Restricting the food offered within the school, does not prepare the students for the environment outside of school. One participant shared her idea of requiring the cafeteria to display the nutrition information of

the food sold by the cafeteria so that the staff and students can make informed choices about what they are eating. "It would be nice for the caf to tell us how much fat and like protein are in things so we can make a decision" (Jessica). Although having more knowledge may not influence all students in their eating behaviours, it may help the students prepare for decisions outside of the school environment.

Students also receive messages about eating behaviours from their teachers. Teachers do not receive any formal nutrition training as part of their teacher education and therefore knowledge will vary between each teacher (Ontario College of Teachers, 2015). Although teachers provide biopedagogical instructions through direct teaching within the classroom, teachers also provide subtle health messages through their behaviours outside the classroom. Participants spoke about being given food rewards such as candy or chocolate bars, as well as observing teachers' food and beverages choices outside the classroom. "We are told we shouldn't get chips or drink pop, but I see my teaching doing it" (Allison). These behaviours were viewed by the students as contradictory to the messages delivered within the classroom. Teachers may be unaware of the subconscious influence that they have on their students. These contradictory biopedagogical instructions can impact the effectiveness of any nutritional information taught in the classroom.

Implications and Conclusion

The young women received biopedagogical instructions and messages about health as well as the requirements for health from their parents. Parental influence on the nutrition knowledge and eating behaviours of young women cannot be ignored when implementing nutrition education policies. Policies that solely target the adolescents within the school environment and do not recognize the roles played by parents may have limited impact. Schools need to collaborate with parents about current nutritional information and issues so they can be active participants in influencing their children's eating behaviours and nutritional choices. This research suggests that students will reproduce the health messages they learn at home and at school. Contradictory health messages between the school and home may make it confusing or difficult for students to learn about nutrition. If adolescents are taught different healthy eating behaviours at school and they are not reinforced at home, the impact of the education may be limited. School policies need to be comprehensive and not work in isolation.

Research has shown that knowledge about nutrition does not necessarily translate to better eating behaviours (Croll, Neumark-Sztainer, & Story, 2001). This study suggests that an increase in nutrition knowledge does not always impact eating behaviours. The participants in this study demonstrated a functional level of health literacy but did not demonstrate any signs of interactive or critical health literacy (Nutbeam, 2000). By failing to reach a higher level of health literacy, the young women were only able to reproduce health messages they received but were unable to evaluate health messages and resisted when necessary. The young women were frustrated about the current methods of teaching nutrition and felt completing worksheets and readings were not conducive to applying the information outside the classroom. Incorporating food preparation and eating at restaurants or grocery shopping would assist the students in moving from pen and paper knowledge to the application of it. Furthermore, students should be exposed to opportunities to develop their critical thinking skills so that they can move from reproducing health messages to resisting them.

Although limiting the food choices within a school may preclude students from purchasing junk food from the school cafeteria, most students can easily access this type of food outside of the school environment. The sanitization of junk food from the school environment establishes unrealistic parameters and may set students up for failure in an environment outside of school. Moreover, it presents students with biopedagogical instructions about 'good' and 'bad' food rather than assisting students in developing the skills to make that judgement on their own. Policies and programs should teach students how to manoeuvre in the real world so they can make healthy food choices no matter where they find themselves. Teachers also need to be educated about the types of health and nutrition messages they portray to their students through their own actions. Students observe the food and beverage choices made by their teachers, which may reproduce or may contradict health messages received in class. This can be confusing to students and make it difficult for them while they are still working towards higher levels of health literacy.

The current elementary and secondary school nutrition policies in Ontario assist students in reproducing basic ideas of health and healthy eating. However, the policies fail to assist the students in negotiating and evaluating health information to assist them in resisting messages that may be contrary to what they know. Policies designed to improve the health of children and adolescents such as *School Food and Beverage Policy* (OMoE, 2010) need to take a more comprehensive approach and include all stakeholders, inside and outside the school environment, to collectively focus on improving students' knowledge in addition to its application.

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