

A process evaluation of the Breakfast For Kids (BFK) student nutrition programs:

Perspectives of program coordinators

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Ensuring students are well fed can have positive social, behavioural, and academic benefits. Schools reach almost all children and the food they consume there can significantly contribute to their overall dietary intake. Universal access to school nutrition programs can ensure that children at risk for poor nutrient intake have access to safe, healthy foods, thereby promoting growth and development and enhancing academic performance. The purpose of this research study was to evaluate the processes and structures of an Ontario Region's student nutrition programs and to determine how the public health departments' staff can support the program.

This mixed method evaluation included a quantitative survey (n=62; 76% response rate) and qualitative interviews involving 22 program coordinators. The survey elicited a description of programs and variations in components being offered. Interviews with coordinators provided information regarding strengths, weaknesses, opportunities, and threats. Current and potential future partnerships between programs and health unit staff were also evaluated. All school levels (elementary, middle, high schools, and alternative schools) were well represented in the response rates in both quantitative and qualitative methods, with community-based programs being under-represented.

Survey results showed that teachers, followed by volunteer program coordinators were the most involved in planning and delivering programs. Also, more programs had public health inspectors involved (22.4%), compared to public health nurses (PHNs) (14.0%) or nutritionist/dietitians (9.1%). Although only 17.3% of coordinators reported wanting more general public health involvement, 27.8% wanted menu planning and nutrition support, and 25.5% wanted food and safety training. The qualitative interviews corroborated the results from

the survey as well as helped to explain some survey inconsistencies. Overall, results showed that student nutrition programs in the Region varied enormously. They differed in what they offered, how they offered it, and what their needs were. The major strengths reported by coordinators included universality, the ability to reach needy students and providing social opportunities for students. Major weaknesses included forming partnerships, lack of volunteers, scheduling and timing issues, and coordinator work-load. Common threats to the delivery of effective school nutrition programs included lack of sustainable funding, complexity in tracking program use and food distribution, unreliable help from school staff, and conflicts with school administration. Finally, opportunities described by coordinators included assistance with menu planning (finding healthy, affordable food options), and expansion of program offerings, and assistance with finding solid community partners.

This research has identified strategies to help support student nutrition programs. Because not one program in the Region is run the same way, multiple strategies need to be in place to support programs at individual levels. Therefore, health units can have a major role, whether it is through menu planning, food safety training, helping coordinators find healthy food options, or helping them build partnerships to enhance program support and operations.

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1.0 Introduction

Proper nutrition is essential to the growth and development of children and youth. Ensuring that students are well fed can have tremendous social, behavioural, and academic benefits. However, it is known that many Canadian children are not adequately nourished (Shields, 2005; Garriguet, 2004). Intakes from the four nutrient-dense food groups of Canada's Food Guide are low (Health Canada, 2007). Moreover, high intakes of non-nutrient dense "other foods" are common (Storey, Hanning, Lambraki, Driezen, Fraser, McCargar, 2009). As well, food patterns common to this population, such as breakfast skipping, may also contribute to suboptimal intake.

It is known that the prevalence of breakfast skipping is high among Canadian children and adolescents (Minaker, McCargar, Lambraki, Jessup, Driezen, Calengor & Hanning, 2006). Breakfast skipping is of concern for this population because of its importance in daily energy, macronutrient, and food intake (Hooper & Evers, 2003). Breakfast skipping has also been linked to other poor nutrition habits, such as increased unhealthy snacking throughout the day, as well as lower consumption of grain, fruit and milk products (Dubois, Girard, Potvin Kent, Farmer, Tatone-Tokuda, 2008). In addition, students who regularly skip breakfast are at increased risk for higher BMI scores which can lead to negative health outcomes such as overweight/obesity, type 2 diabetes, cardiovascular health issues, and other nutrition-related chronic diseases (Dubois et al., 2008; Roblin & Dombrow, 2004). Although there are many potential reasons for skipping breakfast, one troublesome reason is food insecurity.

Food insecurity is defined as “the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so” (McIntyre, 2004). In 2004, the Canadian Community Health Survey (CCHS) found that 90.8% of Canadian households were food secure, leaving 9.2% million households moderately or severely food insecure (CCHS, 2004). The CCHS survey also found that the overall prevalence of food insecurity was higher in households with children, and 5.2% of children experienced food insecurity in 2004 (CCHS, 2004). This is of concern since food insecure families often cannot afford nutritious food as prices increase, which leads to poor nutrient intake.

In addition to poor nutrient intake, inadequate breakfast may contribute to other problems. When children do not consume enough for breakfast, they arrive at school hungry and are consequently not ready to learn. Research has shown that hunger has an impact on both academic performance as well as behaviour (Grantham-McGregor, 2005; Pollit, 1995). Teachers have reported increased tardiness/absence, more behavioural problems, and lack of concentration for students who do not consume breakfast (Matthys, De Henauw, Bellemans, De Maeyer, & De Backer, 2007; Pollit, 1995). Inadequate breakfast consumption also tends to reflect what the student eats throughout the rest of the day; studies have shown that students consuming a nutritious breakfast regularly have better eating habits in general, and are more likely to reach recommendations as set by Eating Well with Canada’s Food Guide (Health Canada, 2007; Matthys et al., 2007).

As discussed above, students who are inadequately fed in the morning or throughout the day suffer academically and socially and they are at higher risk for health complications. To address these issues, schools have taken on the responsibility of helping to ensure that students

have access to a nutritious meal throughout the day. The American Dietetic Association feels that the schools and surrounding community have a shared responsibility to supply students with high quality foods (American Dietetic Association, 2006). Specifically, *school*-based nutrition and physical activity programs are shown to be important in the enhancement of student overall health (Rampersaud, Pereira, Girard, Adams, & Metz, 2005). Schools reach almost all children and the food and snacks they consume during the school day significantly contribute to their overall dietary intake.

In order to try and improve the dietary habits and intakes of students, the US offers a standardized School Breakfast Program (SBP) which started in 1966 in response to low income families showing signs of malnutrition (Friedman & Hurd-Crixell, 1999). The US National School Lunch Program (NSLP) was also created to ensure proper nutrition for all students throughout the entire school day. These programs are an important source of nutrient intake for many students all over the United States. Currently, in the US, over 28 million children participate in the NSLP daily and about 8.9 million participate in the SBP (American Dietetic Association, 2006).

Almost 10 years ago, the Canadian Living Foundation started an initiative to address the need for such programs in Canada. In collaboration with Breakfast for Learning, more than eighteen hundred community based programs have been created throughout Canada (Breakfast for Kids, 2007). School Nutrition Programs (SNPs) in general have come a long way. While previously programs were only available to low income students, they are slowly becoming universal to all students regardless of income. In Canada, all nutrition programs are currently reported to be universal, so students from every socio-economic background are eligible to participate (Leo, 2007; United Way of Guelph & Wellington, 2007). Providing universal access

to school nutrition programs can ensure that children who may be at risk for poor nutrient intake have access to safe and healthy foods.

While school nutrition programs have increased in prevalence, many are not evaluated and little is known about their effectiveness. A national US evaluation was conducted recently for the SBP's and NSLPs, yet no national evaluations have been done in Canada (Leo, 2007). Because Canada's programs are not standardized, they differ greatly in how they are implemented. This suggests the importance of conducting evaluations for these programs to better understand the best ways to implement them. The aim of this research is to evaluate SNPs in one large, ethnically diverse, urban region in Ontario, Canada.

The objectives of the study were to determine program coordinators' views of the strengths, weaknesses, opportunities, and threats associated with their programs, as well as to determine their perspectives on the current and potential support for their programs. The literature review that follows will discuss: a) youth dietary behaviours, b) benefits of breakfast consumption, c) nutrient benefits and student dietary intake, d) obesity and student nutrition programs, e) social factors affecting programs, and f) components of effective programs.

2.0 Literature Review

2.1 Youth Dietary Behaviours

2.1 A. Prevalence and socio-demographic correlates of breakfast skipping

It is important when creating or evaluating student nutrition programs to understand youth dietary behaviours. If students' general dietary behaviours are better understood, program coordinators can use that knowledge to alter how programs are run to try and increase student participation and address identified concerns (Reddan, Wahlstrom, & Reicks, 2002). One of the most noteworthy negative dietary behaviours/patterns found amongst youth is breakfast skipping. Generally, breakfast skipping in children and youth is defined as not eating a morning meal between the time they wake and the commencement of school (Keski-Rahkonen, Kaprio, Rissanen, Virkkunen & Rose, 2003). The definition can be further broken down differentiating *regular breakfast skippers* defined as skipping breakfast seven days a week, *occasional skippers* who skip breakfast less than four days a week, and *breakfast eaters* who consistently eat breakfast every day. It becomes more complicated when considering what constitutes a morning meal (Murphy, 2007). Definitions of 'breakfast' differ from study to study; some consider breakfast as having eaten anything at all, to a meal that consists of at least ten percent of the RDA for food energy from at least two food groups. Others are defined simply as any nutritional intake of 50 calories or more from the time of waking up until 45 minutes after the start of school (Murphy, 2007).

Whatever the definition, children and adolescents are more likely to skip breakfast than any other meal (Rampersaud et al., 2005). In a Canadian study of Ontario and Alberta adolescents, 49.3% of 2,621 grade nine and ten public high school students reported skipping breakfast 'some days of the week' (Minaker et al., 2006). The Chief Public Health Officer states

in the 2008 Report on the State of Public Health in Canada, that “31% of elementary students and 62% of secondary school students do not eat a nutritious breakfast before school. Almost one quarter of Canadian children in grade four do not eat breakfast daily, and by grade eight, that number jumps to almost half of girls” (Butler-Jones, 2008).

In a Canadian survey of high school students’ behaviour, researchers found that 43% of boys and 58% of girls did not consume enough food groups for a quality breakfast (Cohen, Manske, Bercovitz, & Edward, 2003). Less than one half of the students ate any breakfast at all. When comparing age groups, older students were more likely to habitually skip breakfast, and skipping tended to increase with age (Rampersaud et al., 2005; Cohen et al., 2003; Benton & Jarvis, 2007; Taylor, Evers, & McKenna, 2005). The survey found that breakfast skipping increased from 44.9% of students in grade nine to 65.3% in grade 12 (Cohen et al., 2003). This trend is even seen in elementary school students where 18% of grade four students skipped breakfast, and 38% skipped in grade eight. They also found gender differences, where girls tended to skip breakfast more often than boys and boys were also more likely to eat a good quality breakfast (Cohen et al., 2003). In this study, quality of breakfast was assessed based on food groups; a high quality meal in this case would consist of a serving of at least two different food groups. Again, definitions of quality differ between studies and therefore comparing results is difficult.

Cultural and social differences have been found to be a factor associated with breakfast consumption, or lack thereof. Research has been conducted examining specific populations and frequency of breakfast consumption. A national US survey in 1991 reported that children from lower socio-economic status (SES) areas, as well as black and Hispanic youth were more likely to skip breakfast (Rampersaud et al., 2005). A Canadian study by Minaker and colleagues (2006)

examined SES and geographic location and its association with food behaviour. Fifty-three high schools in Ontario and Alberta were recruited, with 2621 students participating. Researchers compared childrens' intakes and eating behaviours from schools across urban/rural, public/private jurisdictions, and SES levels. They found that students from lower SES regions were more likely to skip breakfast than those from higher SES regions (Minaker et al., 2006).

While these populations are more likely to skip breakfast, they are also more likely to participate in programs as well. A study, known as the School Nutrition Dietary Assessment Study (SNDAS), involved 1730 fourth grade students who participated in a US SBP (Guinn, Baxter, Thompson, Frye, & Kopec, 2002). They investigated participation rates and characteristics of students who attended the programs. Students most likely to eat school breakfasts were children who were of low income, black and living in more rural areas. Regarding race, 60% of black students participated in SBP, compared to 8% of white students. These findings were consistent with the Bogalusa Heart Study and the CATCH study (Guinn et al., 2002). There is the potential that students of these demographics participate more often because many programs are often targeted at populations at risk. At any rate, it is clear that many social and cultural factors may affect what students eat, and also whether or not they would participate in a nutrition program.

2.1 B. Prevalence of consumption of suboptimal breakfast

While skipping breakfast is common, many students are also not consuming high-quality breakfasts. In a 2007 Canadian report, researchers found that only 50% of children surveyed consumed the minimum number of daily servings of vegetables and fruits according to Canada's Food Guide (Leo, 2007). This is especially of concern regarding breakfast, since studies have shown that fruit and vegetables are most frequently consumed by students at lunch and dinner,

with the fewest being consumed at breakfast and snack (Baranowski, Smith, Hearn, Lin, Baranowski, Doyle, Resnicow & Wang, 1997); therefore, the potential for breakfast programs increasing students' total servings of vegetables and fruits is high. A Belgian study looked at quality of breakfast and overall nutrient profiles in adolescents (Matthys, et al., 2007). A seven day food record was kept for a sample of 341 adolescents. Researchers rated breakfasts consumed based on food group combinations and energy amounts. Overall, they found that each student's breakfast score was low (they *never ate* or *usually did not eat* breakfast). A low quality breakfast was defined as not consuming enough calories (< 400 kJ or < 95 kcal) and/or not enough variation in food groups. A good quality breakfast was defined as a breakfast that includes food items from at least three different food groups with sufficient calories. For those who ate breakfast, slight differences were found based on gender; 18% of boys and 27% of girls were found to eat a low quality breakfast; 56% of boys and 45% of girls ate a moderate-to-good quality breakfast; only 13% of boys and 10% of girls ate a full value breakfast (Matthys et al., 2007).

Findings can be difficult to interpret because of the varying definitions of a high or low quality breakfast. While some studies use cut-offs such as 95 kcals as in the above study, others have used higher or lower cut-offs. Some rate quality of breakfast by percent of energy intake at breakfast compared to total daily intake (Hooper & Evers, 2003). Again, others focus on the number of food groups consumed at breakfast. Because the definitions and cut-off points can differ so greatly, it is difficult to compare studies on consumption of a 'high or low quality breakfast'.

2.2 Benefits of Breakfast Consumption

Research has shown that eating a nutritious breakfast or lunch can affect students' learning ability/cognitive function, overall behaviour, as well as their general health (Florence, Asbridge, & Veugelers, 2008; Murphy, Pagano, Nachmani, Sperling, Kane & Kleinman, 1998). Studies have been conducted looking at breakfast specifically and its relation to cognition and school performance (Pollit, 1995; Grantham-McGregor, 2005). Two potential theories underlie this relationship. One theory is that short term metabolic changes will immediately supply energy and nutrients to the brain, helping with cognitive function. The other is that consistent contributions of nutrient dense foods for breakfast will affect a person's health status in the long term. Over a 24 hour period, the longest interval between meals is between dinner and breakfast the next morning. It is during this time that children lack an energy supply. Therefore, if no food is consumed in the morning, the resulting gradual decline of insulin and glucose levels will affect a child's cognitive function (Pollit, 1995; Grantham-McGregor, 2005). Not only will glucose levels be affected, but breakfast skipping will also reduce intakes of other necessary nutrients needed for central nervous system functioning (Widenhorn-Muller, Hille, Klenk, & Weiland, 2008). If this behaviour becomes frequent, there is an increased likelihood of the child experiencing adverse effects which can put them at risk academically.

Research has shown that children commit fewer errors on psychological tests after they have eaten a high quality breakfast, consisting of high fruit/vegetable, and dairy consumption as well as low to moderate fat intake (Florence et al., 2008; Guinn et al., 2002). Protein consumption at breakfast has also been associated with a higher quality meal because it provides a slower more sustained source of energy which extends satiety (Mahoney, Taylor, Kanarek, & Samuel, 2005). Breakfast consumption also seems to affect memory; eating a nutritious breakfast has been linked to several aspects of memory function, such as recall, episodic memory, and

short and long term memory (Rampersaud et al., 2005). When comparing schools with or without nutrition programs, schools with programs in place help enhance cognitive functioning in children, specifically the speed and accuracy of memory retrieval (Hyndman, 2000; Benton & Parker, 1998). A group of 569 students aged 11 to 13 years were randomized into breakfast and non-breakfast groups (Rampersaud et al., 2005). Each group was given a recall test; one group was tested 30 minutes after eating breakfast while the second group was tested not having had any breakfast. Results showed that students who had eaten breakfast did significantly better on the recall test than those students who did not eat breakfast (Rampersaud et al., 2005).

Another factor to examine is the timing of breakfast consumption and how this might be important for cognitive ability. In fact, a two week randomized control trial involving 569 Israeli elementary school students aged 11 to 13 was conducted to study the effect of breakfast timing on cognition (Vaisman, Voet, Akivis, & Vakil, 1996). The children were from different areas and had varying socioeconomic status. The first testing session involved students completing a questionnaire of what they had eaten that morning, specifying items and quantities. They were then given the Rey Auditory Verbal Learning Test (RAVL) to measure cognitive functioning in the second hour of school. After this session, two-thirds of the subjects were enrolled in a 14 day program where each subject received a standard breakfast (cereal and milk) between 8:00 and 8:20 AM; the control students were not given the standard school breakfast and were not given instructions on breakfast habits. After the 14 days, all students (both intervention and control) were given the RAVL Test at 8:30 AM. Groups of subjects were analyzed (those who ate breakfast versus those who did not eat breakfast before test 1; those who ate breakfast at home; those who ate at school; those who did not eat any breakfast before test 2). Results showed that those who ate breakfast consistently did not necessarily perform better than those who started the

day without breakfast when tested two hours later. However, differences in almost all test scores were statistically significant between those who had regularly eaten the standard breakfast 20 minutes before school (intervention group), versus those who ate at home between an hour or two before the test, or those who ate nothing (control). Those who ate closer to test time showed significant improvements in test scores compared to those who either ate much earlier, or did not eat at all (Vaisman et al., 1996). This is also an interesting finding given that this study did not meet the previous studies' definition of an 'adequate breakfast' as it only meets two food groups. This shows that there are still inconsistencies regarding what is considered a high-quality breakfast. However, it also goes to show that eating some breakfast (whether it meets the definition of high quality) is better than none, especially over the short term. Over the long term, consistently consuming a high quality breakfast therefore may confer additional benefits.

Both experimental and field studies have been conducted assessing the relationship between breakfast and scholastic achievement (Papamandjaris, 2000; Murphy, 2007). These studies have also been conducted over the short term (looking at results of skipping one meal), as well as over the long term (never eating breakfast).

2.2 A. Short term impacts of breakfast consumption

A common experimental study design to examine the short term impact of breakfast on academic achievement is conducted with subjects acting as their own controls. Cognitive tests are run when students are in a fed state (having had breakfast), and in a fasted state (Papamandjaris, 2000; Rampersaud et al., 2005). A literature review conducted by Papamandjaris (2000) found that younger children might be more vulnerable to a fasting state. Most studies regarding short term impacts have been done on elementary school children,

because their cognitive abilities seem to be most affected after an overnight fast compared with older students (Hyndman, 2000; Mahoney et al., 2005).

Looking specifically at short term effects of breakfast on cognition, results tend to vary. Some researchers found that American children who were generally well nourished and were given breakfast, tended to do better on arithmetic tests, continuous performance tasks and problem solving compared to when not having eaten breakfast (Rampersaud et al., 2005). On the other hand, other studies found negative results, and did not find that short term memory or problem solving was affected by breakfast consumption (Papamandjaris, 2000). Reasons for these mixed results could be linked to differences in population, or perhaps lack of controls. However a more recent study suggests that breakfast composition may be accounting for these contradictory results. Mahoney and colleagues (2005) examined breakfast composition and its effects on cognitive processes in elementary school children. They compared the effect of two common breakfast foods (instant oatmeal & ready-to-eat cereal) and no breakfast on children's cognitive functions. Both breakfasts were similar in energy, however their macronutrient composition differed significantly especially regarding protein and fibre content as well as glycemic index. They tested thirty middle class students aged nine to eleven who were given one of three set breakfast conditions once every week for four weeks (oatmeal, cereal, or no breakfast). The order of the breakfast conditions was counterbalanced (assigning the various conditions in a different order for each different subject). Children were instructed not to eat after 10:00PM the night before test day. Students also served as their own controls receiving a different breakfast condition each week. Experimenters were blind to the breakfast conditions. Children (after either receiving breakfast or not) returned to class and an hour later returned to the test room to complete a series of cognitive tests (including short term memory, visual

perception, visual attention, auditory attention, and verbal memory). Overall results showed that breakfast intake enhanced cognitive performance, especially regarding spatial memory in boys and girls as well as short term memory in girls. Differential effects were also found in terms of breakfast content. In terms of spatial memory, those participants that ate oatmeal (higher in fiber and protein) were able to correctly recall the most items on the test, when compared to those who ate cereal or those who ate nothing. However statistically significant differences were only found between the oatmeal and no breakfast group (Mahoney et al., 2005). These results suggest that the composition of breakfast can have an effect on short term cognitive functioning in children; however the non-significant trends must be confirmed through further controlled studies. It seems that it is not only important to consider *when* or *if* students are eating, but *what* they eat as well.

2.2 B. Long term impacts of breakfast consumption

Studies to assess the longer-term effects of breakfast consumption have also been conducted. Most of these studies examined the impact of the SBP on cognition and classroom performance. A study conducted in Philadelphia and Baltimore, assessed a universally free breakfast program in three schools after it had been in place for four months (Murphy et al., 1998). Researchers collected information on participation in a school breakfast program, school record data, and conducted interviews with both parents and children from the three schools. This information was collected prior to the programs implementation, and again four months after implementation. To study change in breakfast program participation, children were classified as increased program participants if their rates increased by 20% or more over their rate of participation prior to the implementation of the universal free program. Before implementation, 62 percent of students rarely or never ate *school-supplied* breakfast. After implementation of a universal free program, according to school cafeteria staff's on-site records,

approximately half of the students in the study increased their participation. Results showed that those who increased their participation had significant increases in math scores, and showed reduced levels of absenteeism. Interviews with teachers, and children showed a decrease in reported psychosocial problems for those students who had increased their participation (they were assessed using validated screening tools, such as the Children's Depression Inventory, the Revised Children's Manifest Anxiety Scale, the Conners' Teacher Rating Scale-39, and the Pediatric Symptom Checklist) (Murphy et al., 1998).

A longitudinal three year study in Minnesota found that converting their targeted SBP program to a universal program increased composite math and reading scores in elementary school students (Papamandjaris, 2000). Six schools implemented the free program, and four schools were used as controls. The implementation schools offering universal programs significantly increased program participation as well. Prior to the study, an average of 12% of students participated in the program; after implementation, participation rates increased significantly ranging from 68.9% to 93.7% for implementation schools in year three. Similar results to the Minnesota study were found in different states as well, but these studies were conducted predominantly in poorer areas, therefore results may only be generalizable to predominantly low SES students (Papamandjaris, 2000).

2.2 C. Effects of breakfast consumption on well-nourished versus at risk students

Researchers have also examined differences between students who are well-nourished compared to those who are malnourished. Much of this research was conducted in developing countries where malnutrition is more common. For instance, one study conducted in Jamaica tested the omission of breakfast and its effects on malnourished (defined as: weights-for-age \leq -1 SD of the National Center for Health Statistics references) versus nourished children (weights-

for-age > -1 SD) (Powell, Walker, Chang, & Grantham-McGregor, 1998). Researchers measured the effects of administering a standard government meal to a group of at risk students (malnourished and poor school attendance). One hundred and fifteen participants (children in grades two to five) received either breakfast or no breakfast for three months. They found that omitting breakfast had negative effects on cognition and those who were given breakfast performed better (Powell et al., 1998). Studies in developing countries seem to show that the introduction of a nutrition program will positively affect children's cognitive development (Papamandjaris, 2000).

However, studies conducted in developed countries also show positive effects regarding breakfast and malnourished children. A US study compared the cognitive abilities of nutritionally at-risk students with those not at risk after the initiation of a universal school breakfast program (USBP) (Kleinman et al., 2002). Students whose daily nutrient consumption was below 50% of the RDA for specific nutrients (vitamins A, B6, B12, C and folate, iron, zinc and calcium) and/or who consumed $<50\%$ of the Recommended Dietary Allowance (RDA) for total daily energy were considered to be nutritionally at-risk. The standard cut-off for low nutrient intake is usually $\leq 67\%$, however, for the purposes of this study they adopted a more stringent standard and considered an intake of a particular nutrient as low if the daily nutrient consumption was $\leq 50\%$ of the RDA. Initial interviews with parents and students were conducted to assess the students' diet prior to the study. Also, students were asked to fill out a 5-item version of the Child Hunger Index - Child Report (CHI-C), a valid and reliable tool for assessing hunger by child self-report. Of the 97 grade four, five, and six inner city students who were studied, 33 percent were classified as being nutritionally at-risk prior to the USBP. These same students were also shown to have poorer attendance, more behaviour problems and had lower

grades prior to the USBP. Socioeconomic and ethnic characteristics were similar in all three schools studied. Six months after the implementation of the USBP, students were interviewed again. Those students who had decreased their nutritional risk after six months showed greater improvements in attendance, program participation and improvements in math grades as well as behaviour (Kleinman et al., 2002).

While many of these studies focus on SBPs offered to malnourished children, studies conducted in the US and Great Britain have also shown positive cognitive results for SBPs offered to more well-nourished middle class children (Pollit, 1995). However, similar studies in Peru and Jamaica that focused on well-nourished children did not show significant effects (Pollit, 1995). The next section will address potential reasons for these, and other inconsistent findings in the research related to breakfast and cognition.

2.2 D. Reasons behind inconsistencies in study findings

Research studies conducted on diet, breakfast and cognitive function in children tend to vary in results, and are often inconsistent. Researchers have come up with a few reasons that may account for these inconsistencies. First, studies tend to use different types of cognitive tests. According to a Cochrane review on school feeding and physical and psychosocial health (Kristjansson, Petticrew, MacDonald, Krasevec, MacGowan, Farmer, Shea, Mayhew, Tugwell, & Welch, 2007), studies need to include all levels of cognition to be able to properly assess outcome measures. These cognitive functions include intelligence, attention, processing speed, executive functioning, learning and memory, visual skills, motor and sensory performance, and finally academic achievement. Most studies will only assess a few of these functions at a time. Also, some studies will control for specific factors that others do not control for, such as gender, socio-economic status, or geographic location. A review by Murphy (2007) suggests that the

definition of breakfast can impact the results of a study. For example, when breakfast was defined as anything eaten in the morning, only eight percent of students were shown to be breakfast skippers; however, when breakfast was defined as at least 10% of the RDA for energy and including foods from two food groups, then 29% of students were considered 'breakfast skippers'. This could therefore affect results. According to Gibson and Green (2002), students may also have individual differences in their glycogen stores that are never assessed prior to, or at the time of the study. This may account for some of the variation in findings as well. Many methodological concerns also exist, including the proper monitoring of student participation, accounting for any confounding variables, reporting any drop-outs, as well as the selection of controls. Lastly, as previously mentioned, differences in breakfast composition may also affect results (Mahoney et al., 2005). While some findings have been mixed, generally studies on the short term and long term effects of breakfast consumption have shown positive effects. Also studies assessing breakfast on those nutritionally at-risk have shown promising results. Therefore, the value of breakfast on learning capacity of children should not be underestimated. Overall results still point to a positive link between consumption and cognition.

2.2 E. Benefits of breakfast consumption on behaviour and overall dietary health

As seen in the studies discussed above, it has also been reported that breakfast consumption can lead to positive changes in classroom behaviour and attendance. Reports from US parents and teachers have reported lower levels of hyperactivity among students who participate in SBPs (Pollit, 1995). An evaluation of the School Food and Nutrition Program in Toronto, Ontario was conducted where 45% of teachers reported positive changes in student behaviour. They felt students who participated in programs were calmer and more focused (Brown, 1993). School attendance tended to increase and tardiness rates decreased after the introduction of a nutrition program (Matthys et al, 2007; Kristjansson et al., 2007). A study was

done in the US to look at children's perceived benefits and barriers to school breakfasts (Reddan et al., 2002). Approximately 1500 grade 4 and 5 students were studied across 10 schools. The authors found that the majority of children thought that eating school breakfast provided them with more energy and an increased ability to pay attention in school. Other reports have shown that eating breakfast regularly is associated with more healthy eating habits and exercise patterns, making healthier food choices, and having a more consistent energy intake (Matthys et al., 2007). Together these factors can result in a healthier body mass overall. Students who skipped breakfast were more likely to have inadequate diets overall (Rampersaud et al., 2005). Breakfast consumers tended to make better food choices throughout the day; they were also more likely to choose from various food groups (Rampersaud et al., 2005). Research generally supports that offering breakfast to students of all ages and across socio-economic status, can benefit their overall health.

2.3 Nutrient Benefits & Dietary Intake

After investigating the overall benefits breakfast consumption and nutrition can provide to students, it is also important to examine dietary intake. Breakfast should add to a child's total energy, protein, carbohydrate, and micronutrient intake in order to increase the likelihood that nutrient requirements are met (Pollit, 1995; Rampersaud et al., 2005). Children who consume breakfast regularly are more likely to consume less fat, more vitamins, minerals and kilocalories, and have a better overall diet (Matthys et al., 2007; Guinn et al., 2002; Crepinsek, Singh, Bernstein, & McLaughlin, 2006). Calcium, phosphorus, magnesium, riboflavin, vitamins B and A, and folate contribute to the largest differences between breakfast skippers and consumers (Murphy, 2007). Younger children especially benefit from eating an adequate breakfast (Mahoney et al., 2005). National US dietary intake records showed that children between the

ages 6-11 years were consuming one third of their vitamins A, C, B6, B12, thiamine, riboflavin, niacin, calcium and iron through breakfast consumption alone (Reddan et al., 2002).

Some studies reported fibre intake to be higher when students consumed breakfast regularly; this was partially to do with the consumption of ready to eat cereal (Rampersaud et al., 2005; Hill, 1995). Calcium intake, therefore, also tended to be higher in those individuals (Rampersaud et al., 2005). In Canada, 45-55% of grade 8 students consumed cereal for breakfast the week prior to surveying (Evers, Taylor, Manske, & Midgett, 2001). This is an important component of breakfast due to cereal's role in increasing fibre and, with the addition of milk, calcium intakes (Rampersaud et al, 2005).

The quality of breakfast consumption was studied in a cross-sectional dietary survey of adolescents in 1997 (Matthys et al., 2007). Approximately 341 students aged 13 to 18 years in Belgium were recruited and completed a 7 day food record. It was collected through open entry format, using diaries separating breakfast, lunch and dinner, as well as morning, afternoon, and evening snacks. Scores were given based on food group and total energy consumption, and students were assigned to four categories: no breakfast, low-quality breakfast, not enough calories/food groups, or high-quality breakfast (consumed nearly everyday) (Matthys et al., 2007). Most students fit into the no breakfast category. However, for those students who consumed high-quality breakfasts, significant differences were found in their nutrient profiles. Those consuming high quality breakfasts tended to have higher total daily energy intakes, higher proportional contribution of proteins, higher polysaccharide intakes, as well as higher micronutrient intakes. Also, female high-quality breakfast consumers showed significantly lower intakes of total fat, mono-unsaturated and poly-unsaturated fat. Regarding food groups, high-quality consumers had high intakes of bread, fruit, vegetables, milk and milk products, and fruit

juice. They also had lower soft-drink consumption when compared to low quality breakfast consumers. High quality consumers also tended to make healthier food choices throughout the day (Matthys et al, 2007). When examining the nutrient profiles of students who skipped breakfast, researchers found that students did not compensate for missing nutrients at other meals (Crepinsek et al., 2006; Rampersaud et al., 2005).

2.3 A. Nutrition standards

It is essential that nutrition standards are set when developing meal plans for students, since historically, standards do not apply to SNPs, cafeterias, vending machines, outside food sources, or other competitive foods (American Dietetic Association, 2006; Roblin & Dombrow, 2004). Competitive foods (foods or beverages sold in the school through a la carte lines, snack bars, student stores, vending machines, or sold outside of school through fast food or convenience stores) have a much lower nutritional quality than those served in student nutrition programs. Students who consume more competitive foods are at increased risk of overconsumption of energy, as well as increased risk of consuming foods high in dietary total and saturated fat, added sugars, and sodium (American Dietetic Association, 2006). Dietitians of Canada have created school food and nutrition recommendations for snacks and beverages sold at schools, however very few consistent standards exist between provinces in terms of school meals (Roblin & Dombrow, 2004; Leo, 2007). School meal programs are considered a safety net for ensuring that students have access to safe, adequate and nutritious foods that will promote their growth and development (American Dietetic Association, 2006). These programs are an important source of nutrients, especially for those from lower income groups.

It is clear that high quality breakfasts can benefit students' nutrient profiles and that student nutrition programs are important to ensure that all students have access to high quality

breakfasts. Current American SBP meal requirements are designed to provide approximately one quarter of the Recommended Dietary Allowances (RDA) for selected nutrients (Dwyer, Hewes, Nicklas, Montgomery, Lytle, Snyder, Zive, Bachman, Rice & Parcel, 1996). The School Nutrition and Dietary Assessment Study (SNDAS) conducted an analysis of the nutrient content of meals from approximately 1,430 US schools offering SBP meals. Program meals were found to meet about one quarter of the RDA for protein and most vitamins and minerals. They were also found to provide the recommended amount of calcium, which tends to be low in children's diets (Burghardt, Gordon, & Fraker, 1995). Another US study was conducted where 306 elementary students participated in plate assessments (Friedman & Hurd-Crixell, 1999). The purpose of the study was to see what students were actually consuming. Students were allowed to choose an entree from an SNP (waffles, cheese or pepperoni pizza, bean and cheese tacos, cinnamon rolls, french toast, muffins, sausage, eggs, dry cereal, or buttered toast). They had a choice of either orange juice or milk. Students were asked to leave their trays on the tables after they were done eating. Measuring cups were used to assess how much of the beverage was remaining, and a visual plate waste method was used to see how much of the food remained. Practice sessions took place before the intervention to standardize the plate waste technique (Friedman & Hurd-Crixell, 1999). Students who ate breakfast at home were excluded from the study. Nutrient intakes were averaged over the eight days that measurement occurred. The United States Department of Agriculture (USDA) requirements were used as a standard (1/3rd of the RDA). The analysis was done and it was concluded that menus did not meet the USDA energy requirements. They did, however, meet the requirements for protein, calcium and vitamin C. Saturated and total fat far exceeded recommendations, which was of concern. Regardless of

how much energy was consumed, students were far above recommendations for saturated fat (Friedman & Hurd-Crixell, 1999).

US nutrition standards

In the US, nutrition standards generally follow *Dietary Guidelines for Americans* which fall under the MyPyramid recommendations (Stallings & Taylor, 2008). An analysis of the National School Lunch and SBP participants found that for children between five and eighteen years, mean daily vegetable and fruit, whole grains, meat/beans, and milk intakes were less than the MyPyramid recommendations. Mean fruit intake was less than 50 percent of the recommended amount (Stallings et al., 2008). Students were also above recommendations regarding calories from fats and added sugars, which is of major concern. This was also found in the School Nutrition Dietary Assessment Study (SNDAS) where breakfasts were analyzed, and researchers found that on average they provided 31% of calories as total fat, and 14% of calories as saturated fat (Dwyer et al., 1996). The Dietary Guidelines for Americans and Healthy People 2000 and the *Dietary Guidelines for Americans* have set a goal of 40% or less for total fat, and 10% or less from saturated fat in school meals (Stallings et al., 2008; Dwyer et al., 1996). Over $\frac{3}{4}$ of students were consuming too much saturated fat based on these recommendations. In addition, over 90% of students were consuming too much sodium when their intakes were compared to recommendations (Stallings et al., 2008; Dwyer, 1996). The USDA has now put limits on how much fat can be served at school programs. The Healthy Meals for Healthy Americans Act now requires school meals to adhere to American Dietary Guidelines, which includes limits on total and saturated fat, as well as sodium (Dwyer et al., 1996).

The Centers for Disease Control have also set recommendations for school nutrition programs that not only include the nutrition standards as mentioned above, but also addresses school policy, curriculum, integration of food services and nutrition education, as well as staff and community involvement. The CDC recommendations take an all encompassing approach in hopes of creating a supportive school-food environment (Centres for Disease Control, 1996).

2.3 B. Canadian nutrition standards

In Canada, Health Ministers under the Integrated Pan-Canadian Healthy Living Strategy committed to develop nutrition standards for student nutrition programs in 2005. Currently, standards are set in all provinces except the Yukon, Northwest Territories, and Nunavut (Leo, 2007); however, even existing standards have been inconsistent. Each province's nutrition criteria differ, and many provinces still sell nutrient-poor foods or do not meet limits on fat, salt, and sugar. Saskatchewan and a few other provinces have school nutrition criteria suggesting which general types of food can be sold, but have no nutrient criteria set. In Newfoundland, New Brunswick, PEI, Quebec, and Ontario, limits on fats, salt, sugars and calories have been set yet are rarely followed (Leo, 2007). Also, while these criteria are set, many of them fail to meet the standards of the US Institute of Medicine (IOM), or recommendations set by the 2007 edition of Canada's Food Guide (Health Canada, 2007; Stallings & Taylor, 2008). In fact, no province has a policy that is completely consistent with the standards set by either the IOM or the 2007 Canada's Food Guide (Leo, 2007). These guidelines are targeted at foods that students can purchase at the school, rather than foods offered in universal nutrition programs. While the United States and Britain have developed standards specific to nutrition programs, Canada remains one of the few developed countries without a national school nutrition policy for school nutrition programs (Gougeon, 2008). Currently, there also is no pan-Canadian publicly

subsidized school nutrition program. Some have provincially funded programs, but they are not common (Leo, 2007).

While no national policies exist for student nutrition programs in Canada, Ontario's Ministry of Children and Youth Services has suggested guidelines for programs in order to promote healthy eating habits among children and youth. According to these suggested standards, any *snacks* offered should contain at least one serving from a minimum of two food groups of Eating Well with Canada's Food Guide with at least one serving from the vegetables and fruit group. Any *meal* served should contain at least one serving from a minimum of three food groups, again with at least one serving from the vegetables and fruit food group and at least one from the milk and alternatives food group (Ministry of Child and Youth Services, 2008). The Ministry of Children and Youth Services has set more specific recommendations when choosing foods from each of the food groups; for instance, including at least one dark green and orange vegetable each day, or choosing whole grain products most often. Nutrition program coordinators are also asked to read the nutrition labels, and choose foods with less than 3 grams of fat, less than 2 grams of saturated fat, no trans fat, 480 mg or less of sodium, and at least 2 grams or more of fibre (Ministry of Child and Youth Services, 2008).

2.4 Obesity & Student Nutrition Programs

One of the major concerns for consumption of fat and sugar is rooted in the increase in overweight and obesity in children. The Standing Committee on Health of the House of Commons completed a report in 2007, and found that Canada ranks fifth out of 34 OECD countries in terms of highest childhood obesity rates (Leo, 2007). In 2004, 1 in 4 Canadian children and adolescents was considered overweight (Lau, Douketis, Morrison, Hramiak, Sharma & Ehd, 2007; Shields, 2005). In the past 15 years, obesity rates have increased in boys from 2

to 10 percent, and in girls from 2 to 9 percent (Lau, et al., 2007). In response to these increasing rates, schools have been called on to try and address this by creating health-promoting school programs that are aimed at helping children and adolescents adopt healthy eating and physical activity habits (American Dietetic Association, 2006; Raine, 2004; Basrur, 2004; Valleau, Almeida, Deane, Froats-Emond, Henderson, Prange & Wai, 2004).

Canadian researchers have found that students who attended schools that had a nutrition program that met the Centers for Disease Control recommendations for school-based healthy eating were substantially less overweight (Veugelers & Fitzgerald, 2005). This Nova Scotian study was conducted in 2003, surveying 5200 grade 5 students as well as their parents and school principals. Researchers measured children's height and weight, assessed dietary intakes and physical activity, and compared these measures across schools with or without nutrition programs. They adjusted for gender and socioeconomic status. They found that those schools with programs that applied the recommendations for 'school-based healthy eating' had lower rates of overweight and obesity compared to schools without programs (17.9% of students with programs in place were considered obese versus 32.8% of students without programs in place). Programs with school-based healthy eating also had students with healthier eating habits in general and reported more physical activity than students from schools without the program (Veugelers & Fitzgerald, 2005). Multifaceted and intensive school programs that are aligned with the CDC recommendations therefore may benefit students in terms of healthy weights. However, it is important to keep in mind that many school programs vary in their delivery, funding, involvement, as well as their population risk level which may affect results.

One major area of concern is those students who skip breakfast as a means of weight control (hoping to either maintain or lose weight) (Zullig, Ubbes, Pyle, & Valois, 2006). Late

elementary and high school students commonly show concerns regarding weight, especially amongst female students (Reddan et al., 2002; American Dietetic Association, 2006; Matthys et al., 2007). Children as young as grade four are showing signs of weight related concerns (Reddan et al., 2002). Girls often will skip breakfast as a means of dieting or weight control (Reddan et al., 2002). They often feel that eating breakfast will make them fat (American Dietetic Association, 2006). It was also shown that adolescents who perceive themselves to be overweight, will use breakfast skipping as their first means of weight control (Matthys et al., 2007; Rampersaud et al., 2005). One issue is that students who skip breakfast can be more prone to snacking, when often the snacks they choose are not nutrient dense (Matthys et al., 2007). Again, studies reported that those students who skipped breakfast in fact had a higher BMI than those who ate breakfast regularly (Keski-Rahkonen et al., 2003; Rampersaud et al., 2005; Berkey, Rockett, Gillman, Field, & Colditz, 2003). Therefore, those students who are skipping breakfast as a means of weight control, may be experiencing the opposite effect. Encouraging regular, nutritious breakfast consumption is essential in the management of childhood and adolescent overweight and obesity.

Another Canadian study examined the effect of self-perceived weight concern on diet and meal skipping (Woodruff, Hanning, Lambraki, Storey, McCargar, 2008). This cross-sectional study of grade nine and ten students in Ontario and Alberta assessed nutrient intake and food behaviours through a validated web-based Food Behaviour Questionnaire. Of the 2616 students who completed the questionnaire, 518 reported feeling concerned about a high body weight. Also, twenty-seven percent of participants reported skipping breakfast as a means to control weight. Body weight concerns, dieting, and meal skipping were associated with lower diet quality as well (Woodruff et al., 2008).

While many students feel that skipping breakfast is an ideal way to lose weight, research shows the opposite effect. Results indicate that children who skip breakfast most often tend to have higher BMIs, and that students who have higher energy intakes from eating breakfast do not necessarily have higher BMIs (Dubois et al., 2008; Rampersaud et al., 2005). A study conducted in Quebec examined the association between breakfast skipping, daily energy and nutrient intake and BMI. Data were obtained from the Longitudinal Study of Child Development in Quebec (1998-2012) which followed a representative sample of 2103 children (Dubois et al., 2008). Children were first seen at five months, and then at one year intervals where standardized questionnaires and interviews would be conducted with the parent/caregiver. Dietary assessments and nutrient analyses were done using 24 hour recalls and breakfast eating behaviour questionnaires. Physical activity was reported as well. After five years of data collection, researchers analyzed 1549 pre-school children's dietary behaviours and collected information on their BMI. Almost nine percent of the children in the cohort were overweight or obese according to CDC guidelines. Ten percent of the children were breakfast skippers (ate breakfast less than seven days per week); these students consumed less total energy on average and less of each macronutrient from meals, and more of each macronutrient from snacks. Multivariate analyses showed that the odds of being overweight among these pre-school children was double for breakfast skippers compared to those who ate breakfast every day. Researchers found that the BMIs of those who skipped breakfast increased as their energy intake, carbohydrates and servings of grain increased, but not for those children who were regular breakfast eaters. This leads to the conclusion that students who regularly eat breakfast are more likely to have an even distribution of energy intake throughout the day which may help maintain a normal body weight, and promote healthier eating habits (Dubois et al., 2008). They are less

likely to consume snacks that are unhealthy during the rest of the day. Students who eat breakfast consistently are also more likely to consume a more balanced diet by meeting the minimum food guide requirements set by Canada's Food Guide (Storey et al., 2009).

Also in terms of overweight and obesity, there has been some concern that students are eating more than one breakfast (one at home, and the other at a school program), thereby consuming excess kilocalories (Bernstein, McLaughlin, Crepinsek, & Daft, 2004; Bellisle, 2004). These students were found to consume almost double their intake for breakfast (Bernstein et al., 2004). A study by Guinn and colleagues (2002), addressed whether or not parents knew whether their child participated in a school nutrition program or not. Six schools were studied and 534 grade 4 students participated. Students were observed when eating at the SBP, and parents were surveyed as to whether they thought their child was an active participant in the program. There were 80 cases of disagreement; 69 cases where the parent thought their child participated when he/she did not, and 11 cases where the parents didn't think their child was participating, but he/she was. There is concern then for the students who are skipping breakfast entirely and going to school hungry, as well as those students who may be eating multiple breakfasts and eating excess kilocalories (Guinn et al., 2002).

2.5 Social Factors Affecting Programs

Many factors influence food choice: sensory perception, the eating environment, parent/peer influence, socioeconomic status, advertising/media, school practices, price, and availability, to name a few. Social Learning Theory is commonly used to explain eating behaviour in youth; the theory suggests there is an interaction found between personal, environmental, and behavioural factors that affect food consumption (Reddan et al., 2002; Bandura, 1978). This is manifest through reciprocal determinism, where all of these factors are

inter-related and influence each other in different ways (Bandura, 1978; Reddan et al., 2002). For instance, the environment can affect personal beliefs as well as behaviour. For example, when teachers model healthy eating and teach students through nutrition education (environment), this increases their knowledge and may change students' beliefs about healthy eating (person), which in turn can lead to changes in their eating behaviours (behaviour). Students' behaviour can also then impact the school food environment. For example, when students either attend or are involved in the planning and delivery of nutrition programs (behaviour), their friends may be more likely to come to the program as well (environment). Also, if a student is helping cook the food offered in a program, they may be more inclined to make these healthier choices at home (changing their beliefs). When a nutrition program is made available to students, and teachers and/or parents promote the program (environment), a student would be more likely to attend (influencing their behaviour). There are also ways in which personal beliefs of a student may impact the environment; if a student sees the school and community looking out for their well-being by providing these programs, then students may feel more inclined to give back their school and/or community in the future. These are just a few ways that personal beliefs, behaviour and environment all interact to affect students' eating behaviour.

Some of the common reasons reported amongst youth when asked why they did not eat breakfast or lunch, were inadequate time to eat, not feeling hungry, and access issues (Friedman & Hurd-Crixell, 1999; Reddan et al., 2002; American Dietetic Association, 2006). Lack of time seemed to be the most commonly reported problem (American Dietetic Association, 2006; Reddan et al., 2002). Students said the lack of time in the cafeteria as well as teachers rushing students through meals to get to class on time, affected whether they ate school breakfast or lunch and how much they ate at the program (American Dietetic Association, 2006). Approximately half of students surveyed indicated that they 'never' or 'sometimes' had enough time to eat breakfast (Reddan et al., 2002). Other students reported that their bus or

transportation schedule did not leave them enough time to eat (Reddan et al., 2002). Therefore, schools seem to provide opportunity for students to consume a healthy breakfast, however the timing of the programs can greatly affect students participation.

Another reason that may affect student participation in these programs is the stigma that may be attached with needing/using a school nutrition program. While historically, programs were only meant for students of low income, today in Canada, programs are universal to all students. Even so, many students are not using the program because they still feel this stigma. A study of nine feeding programs in Atlantic Canada consisted of interviews with parents, program operators, and staff, focus groups with children and some participant observation (McIntyre, Travers, & Dayle, 1999). Stigma was reported as one of the main barriers to participation reported in both the student focus groups and the parent interviews in all but two programs. Parents felt they were blamed for sending their children to the program rather than providing them with breakfast at home, as well as blamed for not sending them to the program when it was offered. (McIntyre et al., 1999) Therefore, not only is stigma a factor preventing students from using the program, but also a factor in preventing parents from sending their children to the program.

Parental influence has an effect on students' eating behaviours in general as well. A study conducted in Wales looked at children's control over food choice, through focus groups of children seven to 11 years of age (Warren, Parry, Lynch, & Murphy, 2008). Sixteen focus groups were done across eight Welsh schools. They found that the more parents encouraged young children to eat certain foods, the less likely they were to choose these healthy options. The more control the parent exerted over food choice, the less likely their child would regulate their own intake. Therefore, when unhealthy foods were available, students were more likely to choose

these over healthier options. This is most likely to happen when parents forbid certain foods. When children are old enough to make their own decisions regarding what they eat, they are likely to act out and choose those forbidden foods (Warren et al., 2008). Giving students a variety of *healthy* choices during school meals allows them to have control over what they eat, without allowing them to choose unhealthy food options. All of these factors need to be taken into account when creating or delivering a school nutrition program.

2.6 Components of Effective Programs

Hundreds of student nutrition programs have been created in the past decade, none of which is run the exact same way as others. It is therefore essential to understand the components of those programs that are found to be most effective. An evaluation was done on Child Nutrition Programs in Ontario in 2005 called the Ontario Child Nutrition Program Evaluation Project (OCNPEP) (Evers & Russell, 2005). The OCNPEP was conducted to determine the quality of programs being offered throughout the province. It was a systematic, province-wide evaluation of programs using the best practices standards developed in 2000. This project ran over three years and was the first province-wide evaluation of student nutrition programs. The best practice standards included: a) access and participation; b) parental involvement, consent, partnerships and collaboration; c) inclusive and efficient program management; d) food quality; e) safety; f) financial accountability; g) and evaluation. Evidence from actual practice, case studies and previous evaluations had led researchers to believe that these standards represent components of successful student nutrition programs. Based on the evaluation, the OCNPEP put forth recommendations for student nutrition programs.

The rest of this literature review will focus on these components and how the delivery of programs can affect their success.

2.6 A. Access & participation (universal student nutrition programs)

One of the most drastic best practices recommendations was to make all programs universally available to all students regardless of socio-economic status. One US study of 153 matched elementary schools found increased program participation in treatment schools offering a free universal program when compared to traditional SBPs (Crepinsek et al., 2006). Intervention schools were paired on the basis of demographic variables, and then schools within the pairs were randomly assigned to the treatment group or the control group. Approximately 30 students between grade two and grade six were randomly selected from each school, with a total of 4,358 students participating. Student participation was monitored and twenty-four hour recalls were collected after one year of program implementation. Analyses controlled for confounding variables, such as age, sex, ethnic background, and school meal eligibility status. Results showed a significant increase in school breakfast participation among those students in the treatment schools; 16% of students in control schools participated in the program compared to 40% of treatment schools ($p < 0.01$) (Crepinsek et al., 2006). Researchers also found that students were more likely to consume a nutritious breakfast either at school or at home when USBPs were offered. However, students in control schools were more likely to get their breakfast from home, suggesting that USBPs shifted the source of breakfast for students (Crepinsek et al., 2006). This shows that providing universally free school meals may be beneficial for those students whose families cannot afford the money or time to provide a nutritious breakfast.

Another US study by Reddan and colleagues (2002) identified perceived barriers and benefits of breakfast programs, and compared schools with or without universal student breakfast programs (USBPs). This study was conducted in six pilot elementary schools in the US over three years. The programs were evaluated using data collected from various stakeholders, including students, teachers, parents, school nurses, administrators, and food service personnel.

Four control schools were matched to the intervention schools by location and socio-economic status of students. After three years of offering USBPs to intervention schools, all students from both intervention and control schools were surveyed. Researchers found that students attending USBP schools seemed more likely to report having eaten breakfast consistently compared to the controls (77% versus 71%, respectively) (Reddan et al., 2002). While the participation rates between intervention and control schools were not statistically significant, other significant differences were found including students in the USBP schools reporting having skipped breakfast much less often than those in the control schools. Also, those exposed to a USBP were found to be more positive about the benefits of breakfast in general.

An RCT of a U.S. SBP Pilot Project was conducted in 2004 (Bernstein et al., 2004). This study was conducted over three years, and included both urban and rural elementary schools with families of varying income levels. Schools were randomly assigned to either a treatment group offering free universal SBP (79 schools) or control group offering the regular SBP which provides free/reduced price meals to only those eligible based on family income (74 schools). Data collection included secondary analysis of school record data and stakeholder interviews. In this study, treatment schools had significantly higher SBP participation rates compared to control schools. This finding remained consistent through all three years of the data collection period (Bernstein et al., 2004).

There is the belief that making SBP's universal perhaps normalizes the behaviour of eating breakfast. It becomes part of a student's routine if it is offered everyday to every student (Reddan et al., 2002). Also, because it becomes routine, it is suggested that this tends to minimize student concerns about weight and they are therefore less likely to use skipping breakfast as a weight control strategy (Reddan et al., 2002). The first recommendation in the

OCNPEP was to ensure universally accessible programs; the authors stated that programs should be available to all children in all grades. Schools programs in Canada now follow these recommendations and offer only universal school nutrition programs (United Way of Guelph & Wellington, 2007).

While universality of programs appears to have an impact on participation and access, other studies have found that the location where students consume their meal is also important. Studies have shown that when breakfast was eaten in the classroom (rather than in a cafeteria), more students tended to participate (Bernstein et al., 2004). In the SBP Pilot Project, eighteen of the 79 treatment schools offered students the opportunity to eat in the classroom. Subsequently, those were the schools with the highest participation rates. Participation rates in the treatment schools rose from 27 to 66 percent after one year of implementation, whereas in control schools, participation rates remained almost constant, from 20 to 21 percent after one year. (Bernstein et al., 2004). This may suggest that location and/or timing is also an important factor in increasing student participation in SBPs. While participation increased in these schools, problems also occurred, including increased workload for teachers and custodians, spillage, insect infestation, teacher resistance, and increase in plate waste. Providing food in the classrooms may also encourage students who generally eat breakfast at home to consume even more, potentially increasing their kilocalorie intakes.

Another best practice recommendation made by the OCNPEP was to ensure that programs ran *at least* three days a week (Evers & Russell, 2005). Having consistency in the program so that children had access (ideally) every day of the week was essential for program success. This Ontario survey found that most programs ran for the entire week. A general lack of support to offer the program tended to be the main reason why programs could not run more than

three days per week (Evers & Russell, 2005). Programs with only one volunteer coordinator were often not able to run more than three days a week. Also, some schools were found to target their SBP program to students in specific grades. Some coordinators reported in the evaluation that their program was only intended for students in kindergarten to grade three exclusively (Evers & Russell, 2005). This may also have had to do with limited resources, staff, and or volunteers. All of these recommendations are specific to increasing program participation rates. In the evaluation of the USBPs, researchers found that on average 60% of students participated in student nutrition programs (Evers & Russell, 2005). The recommendation put forth by the OCNPEP is that at least 20% of the school's students should be participating in the program. Making programs universal has eliminated much of the paperwork for parents and schools, since they no longer have to apply to participate which in turn increases participation rates.

Making programs universal also eliminates much of the stigma that used to be associated with selective nutrition programs, where only those of a certain income could participate. USBPs reduce the perception that only poor students partake in school breakfast programs (Evers & Russell, 2005). Results of previous evaluations have shown that stigma may still present an issue, even when offering free meals to all students; however, many students feel more comfortable participating now that all students are welcome.

One last recommendation pertaining to access and participation is to ensure that language services are available for students of various ethnic and cultural backgrounds. Many programs are run in ethnically diverse areas, therefore being able to translate materials (information letters, pamphlets, consent forms) would increase support from students and parents (Evers & Russell, 2005).

2.6 B. Parental involvement, consent, partnerships and collaboration

Another recommendation is that parents and community members should be involved in program planning and implementation. Often the volunteers that help keep these programs running are parents or other community members. Whether they are helping with the financial aspect of program implementation, are helping prepare and serve food, are sitting on a decision-making committee, or are simply encouraging their child to participate, parents and community members are an essential aspect of the programs. In the US, parents must give consent in order for their child to participate in the program, particularly if the program is not universal (Evers & Russell, 2005). A study by Reddan et al (2002) studied parental attitudes towards National School Lunch Programs in the US. They found that the better attitude a parent had towards the program (parents expressed their views on the importance of breakfast, or participated in the program themselves), the more likely it was that their child would participate.

Also, having a committee where parents and community members can get involved in the program itself, is very beneficial. Committees ideally should consist of parents, community members, vice-principals, teachers, students and other volunteers. These committees can take on responsibilities such as menu selection, budgeting, purchasing, and fundraising. Multiple stakeholders are needed in order for these programs to run successfully, and collaboration is necessary (Evers & Russell, 2005). Involving parents and community members in the planning and implementation of programs helps enhance sustainability of the programs (Hyndman, 2000). Another aspect that has previously been discussed regarding parent/community involvement is education for families. Parent and volunteer education was considered as a ‘side effect’ or an added benefit to student nutrition programs, however, with limited program funds, this often is not feasible (Ontario Public Health Association Food Security Workgroup, 2004).

2.6 C. Inclusive & efficient program management

According to OCNPEP best practices, inclusive and efficient program management involves the program coordinator's role in running programs, resources needed to implement programs, and a system of volunteers and community supporters to maintain the programs. Larger programs in the United States are usually fully staffed, with the staff being trained in food safety, first aid, menu planning, etc. However, this is not always the case for smaller programs. Less than 40% of breakfast programs in the Northwest Territories, New Brunswick, and Manitoba have paid coordinators (Evers & Russell, 2005). In fact, in Canada, most programs are volunteer based and struggle to receive enough funds, and maintain enough staff to keep programs alive (Evers & Russell, 2005; Hyndman, 2000). Often times, these volunteers are not trained in food safety, or nutrition. The OCNPEP reported that it is often those programs with consistent and adequate funding and properly trained volunteers that are the most successful. The highest quality programs are associated with having access to public health dietitians.

According to a review (involving a literature search and 140 key informant surveys and brainstorming sessions) conducted by the Ontario Public Health Association, health units should take some responsibility by providing nutrition and food safety training for volunteers running programs (Ontario Public Health Association Food Security Workgroup, 2004). Programs also should have volunteer recognition to encourage their contributions. Larger programs often build volunteer recognition into their budgets, however for smaller programs, this is not always feasible. Staff and volunteers are vital to the maintenance and implementation of these programs, therefore it is important that they are properly trained and acknowledged for their contributions in order to build high quality programs. The OPHA review suggests the need for increased collaboration between governments, Boards of Health, and education (Ontario Public Health Association Food Security Workgroup, 2004). They discuss the need for comprehensive health

policies that support these programs as well. Linking programs with health units, other networks and community groups is very important to their success (Ontario Public Health Association Food Security Workgroup, 2004). The term ‘Community Partners Program’ has been used to describe the partnership between programs and external community groups. This is the model in which Breakfast For Learning links its programs with the broader community to use its resources (Ontario Public Health Association Food Security Workgroup, 2004). Connecting programs across all community sectors (education, agriculture, industry, public health, etc.) can be extremely useful to support SBPs.

2.6 D. Food quality

The types of food offered at student nutrition programs are often influenced by food cost, nutrition, and food safety. A major goal for all programs is cost-effectiveness. For larger programs, it is easier because of the large volume of bulk food purchased. The main goals regarding food quality are the provision of nutritious food in sufficient quantity, a focus on food safety, nutrition education supporting the food that is offered, and the provision of diverse foods that meet the needs of multicultural populations. Eating Well with Canada’s Food Guide (Health Canada, 2007) is used as a guideline for many student nutrition programs. However, the only stipulation that exists as part of the Best Practice Guidelines is that breakfast should consist of at least three different food groups, and that snacks should include two food groups. This stipulation is only recommended, not enforced. The United States Department of Agriculture has guidelines for the amount of energy, protein, and carbohydrate that are offered in each meal. As mentioned previously, one fourth of the the U.S. Required Daily Allowance is required for protein, calcium, iron, vitamin A, vitamin C and calories and includes specific guidelines for total calories from saturated fat. These US guidelines are enforced through assessments of the menu each year (Evers & Russell, 2005). In Canada, however, such guidelines do not exist and

nutrition standards are often not enforced; there is a need to have food quality standards set based on age of students participating.

Regarding food safety, the province of Ontario offers safe food handling guidelines through the Ministry of Health Promotion. Public health inspectors play a role in providing training to those handling food, however, many programs do not receive this training, especially those programs without kitchen access (Evers & Russell, 2005). Food and Nutrition Services in the US strongly recommend that all programs should be inspected; however, it is the responsibility of state authorities to enforce this. Many programs continue without being inspected, and this is a crucial component to the quality of food being served at school programs.

Nutrition education in SBPs is another aspect that is often ignored. Some schools do provide education, however, this typically occurs where teachers link the nutrition curriculum with the SBP program in hopes of increasing attendance (Evers & Russell, 2005). Most school staff reported that nutrition education was best offered to students within the curriculum (Ontario Public Health Association Food Security Workgroup, 2004). However, more often than not, staff and teachers do not feel that they have the time to coordinate the SBP with the curriculum. The OPHA review concluded that volunteers also should not be responsible for delivering nutrition education (Ontario Public Health Association Food Security Workgroup, 2004). Breakfast for Learning does offer supplementary information and nutrition material to be used for education in schools across Canada in hopes of encouraging the education component. Modelling good nutrition habits by teachers and parents seems to be one of the ideal methods for providing education to students regarding healthy eating habits (Ontario Public Health Association Food Security Workgroup, 2004).

While some programs do offer multicultural foods to reflect the diversity of their neighbourhoods, most struggle simply to meet the basic food guide requirements. Providing students with healthy and culturally appropriate food is important especially in diverse groups (Ontario Public Health Association Food Security Workgroup, 2004). Some Toronto programs have been found to offer diverse foods, such as Halal products for Muslim students. The hope is to expose students to new foods and encourage them to broaden their horizons/menus. Food quality is an essential component for student nutrition programs, and it is important that programs make this a priority.

2.6 E. Safety

Student nutrition programs should create a positive environment for students and staff that is safe, welcoming, and well supervised. The OCNPEP recommendation for supervision is one adult for every 15 children (Evers & Russell, 2005). For many smaller programs, there are not enough staff volunteering in order to meet this criteria. This is especially difficult for snack programs, since most students will participate during class time. In class, on average, there are more than twenty students for every teacher. The area where food is served and prepared must also meet requirements to ensure a high quality program. Coordinators are given instructions regarding the set-up, food preparation and clean up; it is usually provided in the manual distributed at the start-up of the program. The OCNPEP report found that most often, food was served in the classroom. Most elementary schools in Ontario do not have kitchen access, or a specific lunchroom. Meeting safety standards is often not realistic if schools do not even have the proper facilities. The OCNPEP provides the following standards for food preparation safety: “3 sinks (for food, washing utensils, and hand washing); refrigerators set no higher than 5 degrees Celcius; hot food holding units to keep hot food above 60 degrees Celcius; shelving and racks to keep all foods 6 inches off the floor...” (Evers & Russell, 2005). The facilities requirements

identified in the OPHA review are similar, however, include a few additional items, such as a dishwasher and a stove. Having a stove, for example, will help ensure that fresh food is prepared as opposed to pre-packaged foods (Ontario Public Health Association Food Security Workgroup, 2004). First aid training is another aspect related to safety that is addressed by the Ontario evaluation. Breakfast For Learning recommends that program coordinators and staff receive first aid training so they are equipped to respond to emergencies, however, this is not mandatory (Ontario Public Health Association Food Security Workgroup, 2004; Evers & Russell, 2005)

2.6 F. Financial accountability

Many student nutrition programs in Canada are run by charitable groups, and rely on donors such as school boards, provinces, foundations, municipal grants, and grocery store donations for financial support (Evers & Russell, 2005; Hyndman, 2000). Programs are responsible for how they use the money that is donated, and they are expected to account for how their funds are spent. The Breakfast For Learning Program provides funds for some programs, and the programs must provide annual budgets and financial statements to ensure effective and efficient use of funding. Another important source of support is parental contributions. Breakfast programs in Canada are independent community based initiatives, so there are varying levels of parental contribution for each program. Some programs require parents to pay a fee for their child to participate in the program. Other times, parents will contribute by purchasing food for the program itself. In 2004, 38% of costs for Toronto programs were covered through parental contributions (Ontario Public Health Association Food Security Workgroup, 2004). Another issue related to financial accountability that is essential for proper program management is budgeting and accounting. Most programs are able to provide financial statements for their funders. Some public health dietitians provide program coordinators with training in effective budgeting and purchasing (Evers & Russell, 2005). Budgeting is a larger issue in remote

locations, such as in Northern Canada, where food prices are much higher and transportation becomes problematic. Special considerations should be identified for programs in these locations since there are fewer volunteers, and isolation is a major problem (Ontario Public Health Association Food Security Workgroup, 2004). Training for program coordinators in these locations is vital to ensure amongst other things that programs are spending effectively and efficiently.

Funding is generally provided through provincial governments in Alberta, BC, Ontario, Quebec, New Brunswick, Newfoundland, PEI, and Saskatchewan as well as the Northwest Territories and Yukon. However, annual funding varies for each province. For instance, in 2004, the Ontario Ministry of Child and Youth Services gave 8.5 million dollars for nutrition programs in Ontario (Evers & Russell, 2005). Four million of this amount was given to community organizations that provided breakfast programs that targeted students from low-income areas (Ontario Public Health Association Food Security Workgroup, 2004). Individual schools offering programs need to apply for this funding yearly. By comparison in Saskatchewan, the Department of Education and the Department of Community Resources and Employment contributed 1.3 million dollars for 98 designated elementary schools in higher-need areas (Evers & Russell, 2005). It is clear why programs can vary between high and low quality when funding varies so drastically not only by province, but by the amount of independent financial supports. The amount of funding allocated to each program has a direct impact on their functioning.

2.6 G. Evaluation

The last component, evaluation, is necessary to monitor program delivery and to assess the quality of student nutrition programs in Canada. Most of the evaluations to date have focused on the impact of school breakfasts on child outcomes, rather than evaluating what program

components or factors are linked to successful programs (Hyndman, 2000). A few recent evaluations have been done specifically in Ontario (including the OCNPEP and the OPHA review) which have focused on program components. The OCNPEP's Best Practices Guideline that was created in 2000 was based on the first systematic evaluation of student nutrition programs in Canada. Before this time, programs were never evaluated. Evaluations of this nature are of great importance, considering it was the evaluation of the Student Breakfast Program in the U.S. that led to universally available programs. Evaluations can help identify high functioning from low functioning programs and identify factors that lead to program successes and failures. They can help set recommendations for new upcoming programs to help get them started and keep them running successfully, or help existing programs find areas for improvement (Hyndman, 2000). The OPHA's review of Ontario's Student Nourishment Program led to the recommendation that health units participate in program evaluations related to nutritional and health status, as well as food safety inspections (Ontario Public Health Association Food Security Workgroup, 2004).

2.7 Conclusion

In 2000, Hyndman reported an overview of school-based nutrition programs in Canada. He concluded that there is a paucity of evaluation research on Canadian school nutrition initiatives which "makes it impossible to formulate, let alone defend, generalizations about program effectiveness or guidelines for best practices" (p. 24). Since then, two major comprehensive, rigorous evaluations have been conducted by the OPHA and the OCNPEP, that have been able to make solid recommendations and suggest best practices for student nutrition programs in Canada. Now that these best practices have been documented, it is important that evaluations of current programs be conducted to enhance their implementation and delivery. There is currently a lack of process evaluations of nutrition programs to understand how specific

programs are run. As well, there is a lack of evidence that addresses the impact of collaboration between student nutrition programs and community groups, such as health units. To address these gaps in the research, a process evaluation of the Peel Region nutrition programs will be conducted to address how well its programs adhere to the best practices recommended by OPHA and OCNPEP; it will also address how the Region of Peel Health Department can be used as a resource to help support current programs.

3.0 Theoretical Framework

The theoretical model used to guide this thesis is Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1994). This theory suggests that various systems interact to affect a child's development and behaviour. Bronfenbrenner sees the environment in different layers or systems, which he has named the microsystem, mesosystem, exosystem, and macrosystem. The microsystem is directly related to the child and includes the relationships and interactions with his/her immediate surroundings (ie., family, friends, school, community, etc.). The mesosystem is the layer that connects the structures within the microsystem (teacher-parent relationship, church-neighbourhood, school-health unit collaboration, etc.). The exosystem is the system in which the child does not have direct contact, however, these structures in some way affect the child's microsystem (such as a parent's workplace). The final system is the macrosystem, which is the outermost layer, which includes culture, values, and laws. The interaction of these environmental layers is what affects a child's development and behaviour, and all of these systems must be considered for effective change to take place. One change in one of the systems can have drastic effects on the rest of the systems, all of which directly affect a child (Bronfenbrenner, 1994).

In terms of school nutrition programs, the ecological systems theory has been used in previous studies considering the impact of the environment on these programs. Schools are considered part of a child's microsystem, and it is clear that many external factors affect the ways in which school nutrition programs are run. The school food environment has been shown to have a significant impact on a child's food choices (Neumark-Sztainer, French, Hannan, Story, & Fulkerson, 2005) and student's behaviour (Nollen, Befort, Snow, Makosky-Daley,

Ellerbe & Ahluwalia, 2007). Individual child characteristics will partially determine whether or not they will participate in the program (a child from a low-income family may not participate because of the stigma associated). Also more external factors can drastically affect a school's food environment as well. While the US has standardized nutrition programs, Canada does not. The school food environments are slightly different across countries (in terms of nutrition guidelines and funding). For instance, all US programs receive the same amount of funding through the government, whereas Canadian programs are individually funded by organizations. Therefore, the US programs tend to be stricter in what they can offer because they are standardized. Canadian programs tend to be more individualized, so it is difficult to generalize across countries.

Peer and parental influence will also have a direct effect on whether a child will or will not participate in a student nutrition program. A study of high school students and food choice was conducted, and researchers found that perceived health and family eating behaviours (all part of the child's microsystem) had a great influence on a student's food choices at school (Brown & Landry-Meyer, 2007). In terms of the mesosystem surrounding students, external food influences can also affect a student's food choice. Fast food stores are often found in neighbourhoods surrounding schools which can easily affect what a student will choose for lunch or snack; although, this becomes more of an issue for older students (Brown & Landry-Meyer, 2007).

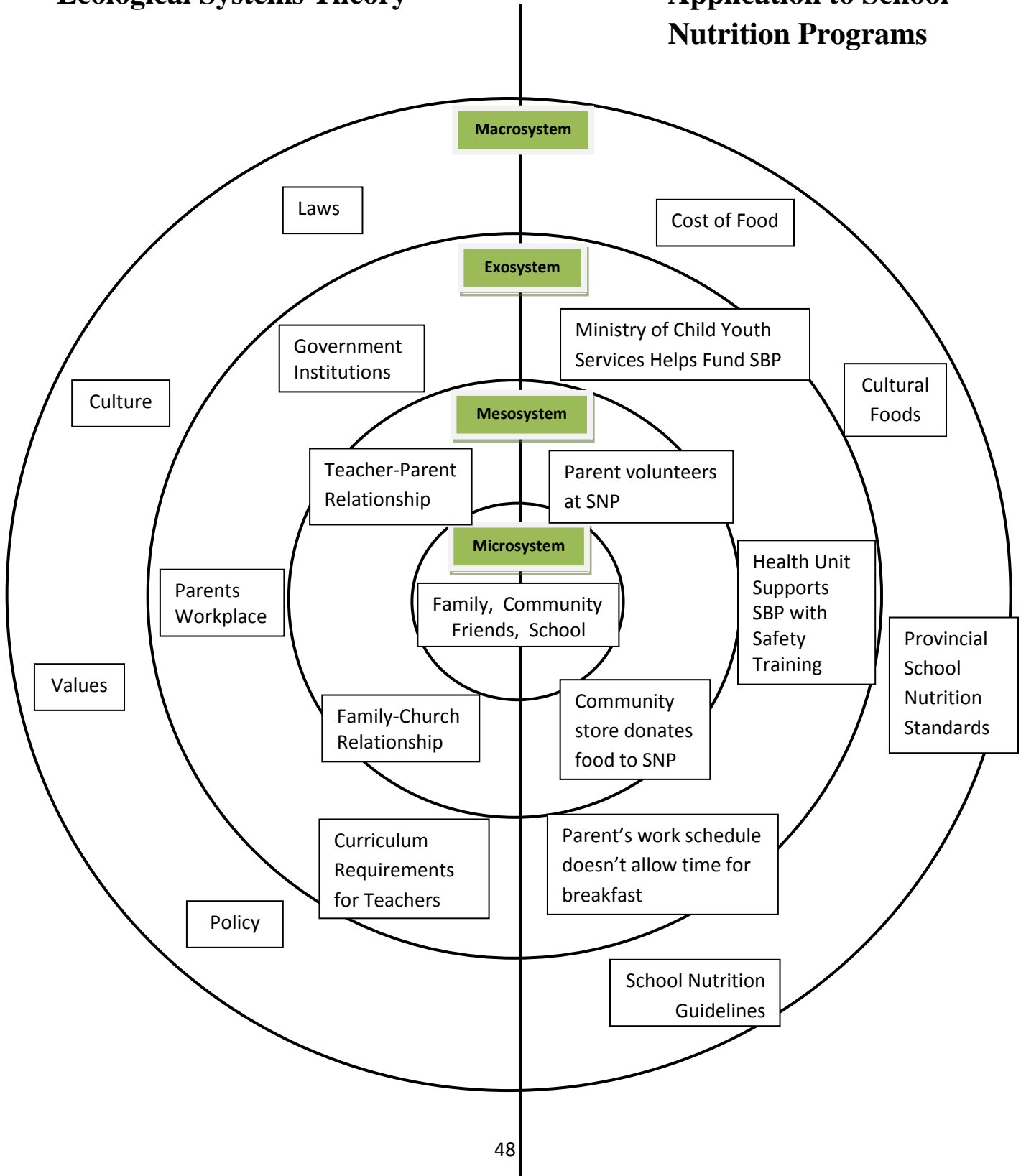
More distal factors found in the macrosystem involve social norms or policies that can affect programs. Food policies for programs that are in place (such as limiting saturated fat), will affect what food is available to students (Dwyer et al., 1996). Also, within the macrosystem is culture; evaluations have addressed this issue, recommending that programs include diverse

foods as part of their menus to be appropriate for students' cultural backgrounds. Increased attention has been given to the "school food environment" as having a large effect on students eating behaviours. A qualitative study conducted by Nollen and colleagues (2007) examined the school food environment and its relationship to obesity. Researchers interviewed principals and food service personnel regarding this relationship. Overall, principals believed that schools were being unfairly targeted as the reason for students becoming overweight; they suggested that many other factors (community, home environment, greater society) need to be included in this relationship. In other words, there are other systems that are being overlooked, and that not one system is solely responsible (Nollen et al., 2007). Evaluations of student nutrition programs need to take into account all of these system levels, since they all either directly or indirectly affect food choice in students.

Figure 3.1 – Application of the Theory

Ecological Systems Theory

Application to School Nutrition Programs



4.0 Methodology

The purpose of this proposed research study was to evaluate the processes and structures of Peel Region's Breakfast for Kids (BFK) program and to determine how Peel Public Health Services Department's staff can support the program.

Peel region is made up of three cities; Brampton, Mississauga, and the Town of Caledon. The population in 2006 was 1,159,405, of which 561,240 were new immigrants to Canada, representing approximately 48% of the region. The Peel Region is one of the largest and most diverse districts in Ontario. About ten percent of Peel families were considered low income in 2006 (Peel Data Centre, 2006). In 2005, a School Health Assessment Survey was conducted in the region collecting information on student health behaviours for those aged 12 to 19 years (Peel Public Health, 2005). Over 7 000 students in the Peel District School Board and the Dufferin-Peel Catholic District School Board were included. Fifty-five percent of the sample was female, and almost three in every ten students were immigrants. In terms of eating behaviour, 49% of students did not eat raw or cooked vegetables every day and 39% did not eat canned or fresh fruit everyday. However, approximately 25% of students ate cookies and chocolate bars every day. Less than half of the students ate breakfast everyday. In terms of body weight, 28% of students were classified as either 'at risk for overweight' or 'overweight'. More males than females were reported as being at risk, or overweight (35%). Only 18% of students reported exercising vigorously outside of school every day of the week (Peel Public Health, 2005).

Currently, there are 235 public schools running in Peel, of which approximately 200 are elementary schools and the remainder are secondary (Peel District School Board, 2009). One

hundred and forty five schools exist in the Catholic school board 122 of which are elementary schools (Dufferin-Peel Catholic District School Board, 2008). Individual BFK programs are run in over 100 schools in the Peel Region. A few other school nutrition programs are run through community centres and Early Years Centres. Individual programs are supported through the Ministry of Child and Youth Services, and are given monetary support from BFK and any other partnerships they create on their own. Any school in the region can start up a nutrition program if they have the support of a program coordinator, teacher, or principal. Individual schools apply for BFK funding and submit applications yearly with an estimated amount of money required. The director of BFK then distributes the funds to programs. Each school runs its own BFK program somewhat independently to meet the specific needs of the school. Programs are usually headed by a program coordinator, who is often a teacher at the school, and are volunteer run.

This study explored the variations in program delivery through the evaluation of multiple sites where these programs were offered. By conducting a SWOT analysis (Pickton & Wright, 1998), this evaluation helped determine the strengths, weaknesses opportunities and threats of current programs and provided recommendations on strategies to strengthen them in general, as well as potentially through greater collaboration between the health unit and BFK programs. To date, no evaluation has been conducted on Peel BFK programs. This study took the form of a process evaluation, with the goal of enhancing the individual BFK school programs by increasing our understanding of how they are run. It measured the preceptor's accounts of activities offered by the program, the programs' quality (based on Breakfast For Learning's Best Practices Standards), and whom they were reaching (Hawe, Degeling, & Hall, 1992). The evaluation also assessed, based on preceptors reports, whether programs were meeting accepted standards set by the OCNPEP and OPHA. The study also helped understand what support (either

consultation or training) programs need and determined perceptions on current and potential health unit involvement.

4.1 Objectives:

Using a volunteer sample of program coordinators from all 2008 Peel Region BFK programs, the objectives of the study were:

1. To determine program coordinators' views of the strengths (assets, successes), weaknesses (needs, gaps), opportunities (health unit support role), and threats (barriers) associated with their BFK program in relation to the following components:
 - a. Access and participation of students in the school nutrition programs
 - b. Parental involvement in and consent for participation in BFK
 - c. Partnerships and collaboration with the community to support BFK
 - d. Inclusive and efficient program management
 - e. Food quality
 - f. Safety
 - g. Financial accountability
 - h. Evaluation
2. To identify structures and processes of the BFK program in the Region of Peel with respect to program components 1.a to 1.h noted above.
3. To determine program coordinators' perspectives about how the Region of Peel Public Health could support and enhance the Breakfast for Kids Student Nutrition Programs.

This study was designed in collaboration with a project advisory committee in the Peel Region. This committee included the primary student researcher, the student's advisor, a public

health dietitian for Peel Region, the Peel director of BFK programs, and the director of the Boys and Girls Club of Peel (the provincial body mandated to serve and support community clubs such as BFK). Monetary support for the study was provided by the Boys and Girls Club of Peel. See *Appendix B* for the budget.

This evaluation was based on a mixed methods approach. Research problems have become so complex that quantitative or qualitative methods alone are inadequate to evaluate programs. Analyzing an issue with a combination of both methods can help to provide a better understanding of a topic and a more comprehensive analysis (Creswell & Plano Clark, 2007; Sale, Lohfeld, & Brazil, 2002). A triangulation design was used to expand and validate the quantitative survey results with qualitative data (Creswell & Plano Clark, 2007). The first component was a quantitative survey, which was distributed to all Breakfast for Kids Programs in the Peel region that started programs prior to the 2009 school year. The survey was used to obtain background information about the programs and the schools running them. This survey helped provide a general description of programs and variations in the components being offered. The second component utilized a qualitative approach consisting of interviews with individual program coordinators who were responsible for the delivery of the BFK programs. Ethical approval was granted from both the Public and Catholic school boards as well as the University of Waterloo, Office of Research Ethics (ORE) (Appendix A).

4.2 Quantitative Methodology

The Ontario Child Nutrition Program Evaluation Project has created a best practices survey, which it has used to evaluate Canadian breakfast programs. The components in the survey include: access & participation, parental involvement/consent/partnerships and collaboration, inclusive and efficient program management, food quality, safety, financial

accountability and evaluation (Evers & Russell, 2005). According to the OCNPEP, these components help to determine the quality of programs. Because of project the advisory committee's concern regarding the length of this survey, the primary researcher met with the team to discuss which survey items should be included and which could be deleted. The survey was modified to fit the needs of the research questions. The original survey was shortened and a few additional questions were added that were of particular interest to the committee, such as the desire to have help with menu planning, food safety, or increased public health staff involvement in general. In collaboration with the primary researcher the supervisor and the advisory committee, the final survey items were identified.

The survey (Appendix C) was distributed to all Peel Region BFK programs that had been running for over a year (N=81), to obtain a broad understanding of all of the types of programs offered in the Region as well as how they were implemented. The survey was distributed to program coordinators in all schools in the Region through a web survey program called Survey Monkey. The survey was distributed online because it was more feasible and affordable and was expected to increase the response rate. It was felt that BFKs coordinators may be more likely to complete an online survey over a mailed survey (Personal Communication, Research Committee, May 27, 2008). All program coordinators had email access, which had been well documented by the BFK Program Director in Peel Region. The survey was pilot tested for ease of use, readability, and relevance by members of the advisory committee and a program coordinator from a breakfast program in a different region.

For the web survey, the Dillman method (Dillman, 2000) was used to encourage a high response rate. After the pilot test (as already approved by the BFK Program Director) BFK coordinator email addresses was obtained in order to recruit participants for the survey. An

information letter (Appendix D) was sent (via email) to all program coordinators which included an invitation to participate in the study. This letter explained the purpose of the study, who and what would be involved and explained its importance. This letter informed coordinators regarding what would be involved if they chose to participate in the full study (both quantitative and qualitative aspects). It also explained the qualitative aspect of the study. This email included a 'notify sender' feature so the primary researcher could keep track of which coordinators actually read the email; that way if they never received the email, a phone call was made to try to increase the response rate.

A second information/consent letter (Appendix E), included a Universal Resource Locator (URL) so that participants could simply click on or copy and paste the link to get to the survey. Then, two reminder email letters (Appendix F) were sent to all coordinators to ensure that they had completed the survey. The first reminder email was sent four days after the invitation to participate was sent. Then, four days later, the next reminder letter was sent to those who still had not completed the survey. The last mailing included a thank-you/reminder letter (Appendix G) that was sent one week after the last reminder letter. All of these letters included the URL to access the web survey. Each invitation letter included a short but unique identification number so the primary researcher could keep track of who had completed the survey. The coordinators were asked to fill in their identification number on the online survey. Without entering this number, they were not able to fill out the survey. This way, reminders were not sent to those who had completed the survey; only those who had not registered their identification number on the survey were sent reminders. As a token of appreciation, all program coordinators who participated in the survey were entered in a draw for a food voucher to a local

grocery store or food producer. Coordinators who did not respond to any of the reminders and did not complete the survey were considered non-responders.

4.3 Qualitative Methodology

The qualitative aspect of the research consisted of one-on-one interviews with a sample of selected program coordinators. These interviews were conducted in hopes of either validating or expanding on the results of the quantitative survey (Creswell & Plano-Clark, 2007). More specifically, the interviews obtained more detailed information regarding the strengths, weaknesses, opportunities, and threats from the perspective of coordinators of randomly selected programs (Pickton & Wright, 1998). All program coordinators were asked if they would be willing to be contacted again regarding their participation in an interview to discuss their specific program in more detail. This request was built into the online survey. An incentive was also offered to those who participated, consisting of a 20 dollar gift certificate. For those who completed the survey and agreed to participate in the qualitative interviews, a stratified purposeful random sample (Patton, 2002) of program coordinators was chosen for the interviews based on school level (ie. primary, middle, and secondary school). This approach is useful to assist in “illustrating subgroups and facilitates comparisons” (Creswell, J, 1998, p. 119). Rather than focusing on sample size, it is important to consider the quality of the cases selected and the analytical capabilities of the researcher to ensure “validity, meaningfulness, and insights” generated from the research study (Patton, 2002). Of the survey respondents who agreed to participate in an interview, 22 coordinators were recruited and data saturation was felt to have been achieved. The goal was to interview coordinators representing all school levels (primary, middle, and high schools), as well as schools from the Peel District School Board (public) and Dufferin Peel Catholic District School Board. Ideally, the coordinators were selected to represent all of these different groups. A maximum variation sample (of those who agreed to

participate), split by level of school was a minimal sample to reasonably address variation based on the stakeholders involved in BFK (Patton, 2002).

All coordinators were asked to sign a consent form (Appendix H) prior to the interview. The interviewer informed the participants that their interview would be kept completely confidential. The primary researcher conducted interviews with each coordinator at a mutually convenient time. Interviews took place, face to face, in an available quiet room in the school to assist in obtaining a quality audio recording. Interviews were semi-structured in nature and audio-taped, lasting approximately one hour. Questions were open-ended pertaining most specifically to the strengths, weaknesses, opportunities and threats of their specific program. See Appendix I for the interview guide.

The interview began asking broad questions specifically pertaining to the SWOT components as well as a general description of their program (what it involved, who was involved, what type of students generally attended, what facilities they had, etc.). The end of the interview focused more on specific questions that were of interest to the research committee, such as coordinator needs for support. Field notes were taken after the interview to capture any observations including non-verbal cues, tone of voice, and the overall feeling of the interview (Miles & Huberman, 1994). The coordinators were reminded that only the primary researcher and the university committee members would have access to the audiotapes. Coordinators were also given the email of the primary researcher for follow up if participants wished to view the results or wished to review the transcripts of their interview. All transcripts were stripped of identifying information so that confidentiality was ensured. The coordinators were thanked for their participation, and the incentive was given.

4.4 Anonymity & Confidentiality

All information provided by the participants was kept confidential. Only the primary researcher and her faculty advisor had access to any information collected from the coordinators. The researcher ensured that the data collected were stored in a locked cabinet at the university that was only accessible by herself and her advisor. After two years, the audiotapes will be destroyed. The data retrieved from the surveys and interviews were used in the report, however there will be no way to identify which school/coordinator the information came from. The program type (snack, breakfast, lunch, or primary, middle, secondary, etc) was the only item attributed to the results. Results were reported in aggregated form. All information was kept confidential unless otherwise contracted with the participant. Qualitative input (quotations), identified the capacity (Catholic/Public, Elementary/Middle/Secondary), but in no way enabled an individual to be identified.

4.5 Analysis

Information gathered from the surveys was analyzed through a descriptive and inferential analysis (Creswell & Plano-Clark, 2007). Since all data that were collected were nominal / categorical data, results were reported using frequencies, percentages, medians and ranges (Loether & McTavish, 1993). Crosstabs were also used to analyze some of the quantitative data; for example, they were used to understand differences between school level or those coordinators who wanted public health assistance from those who did not. Differences between primary and secondary schools as well as Catholic and Public schools were explored.

Information gathered from the interviews was transcribed verbatim and analyzed qualitatively. The analysis used the data collected to capture all the elements of what was said with minimal interpretation. This approach “stay[s] close to [the] data and to the surface of words and events” (Sandelowski, 2000, p. 334) compared to other qualitative data analysis

approaches such as grounded theory, phenomenologic, ethnographic, or narrative studies. Interviews were analyzed using NVivo8 Qualitative Analysis software (Cambridge, Massachusetts). It was used to code both the interviewer's field notes and the transcripts themselves. The interviewer then coded the interviews according to themes. Codes are labels used for assigning meaning to the descriptive information gathered in the interview (Miles & Huberman, 1994). Different levels of codes were used to chunk information together and help pull together common themes amongst all of the interviews. First level coding was the simplest level of coding where items and themes were identified (Miles & Huberman, 1994). Pattern coding was then used to group the summaries into theme sets and constructs where commonalities were found throughout all interviews. As described in the theoretical framework, special attention was paid to the various systems affecting the student nutrition programs; this was a set of themes that was used as an *a priori* framework for the analysis. Once the codes were created and sorted, to strengthen the rigor of the analysis, peer debriefing was done with the primary researcher's supervisor and a committee member to review the coding procedure and to look over the presence of emerging themes to help ensure the credibility of the research. A second person with expertise in qualitative methods reviewed a sample of transcripts, coding, and the overall coding to support reliability of the research (Miles & Huberman, 1994).

Once the data were analyzed separately, the analyses from the quantitative and qualitative aspects were reviewed to establish triangulation of results. This merging analysis is ideal for a triangulation design involving concurrent data collection (both qualitative and quantitative) (Creswell & Plano-Clark, 2007). The analysis explored how the two data sets differed or converged and also examined the extent to which the open-ended themes or codes in the qualitative analysis supported or helped to explain the survey results.

5.0 Results

5.1 Survey Results

5.1 A. Nutrition Programs:

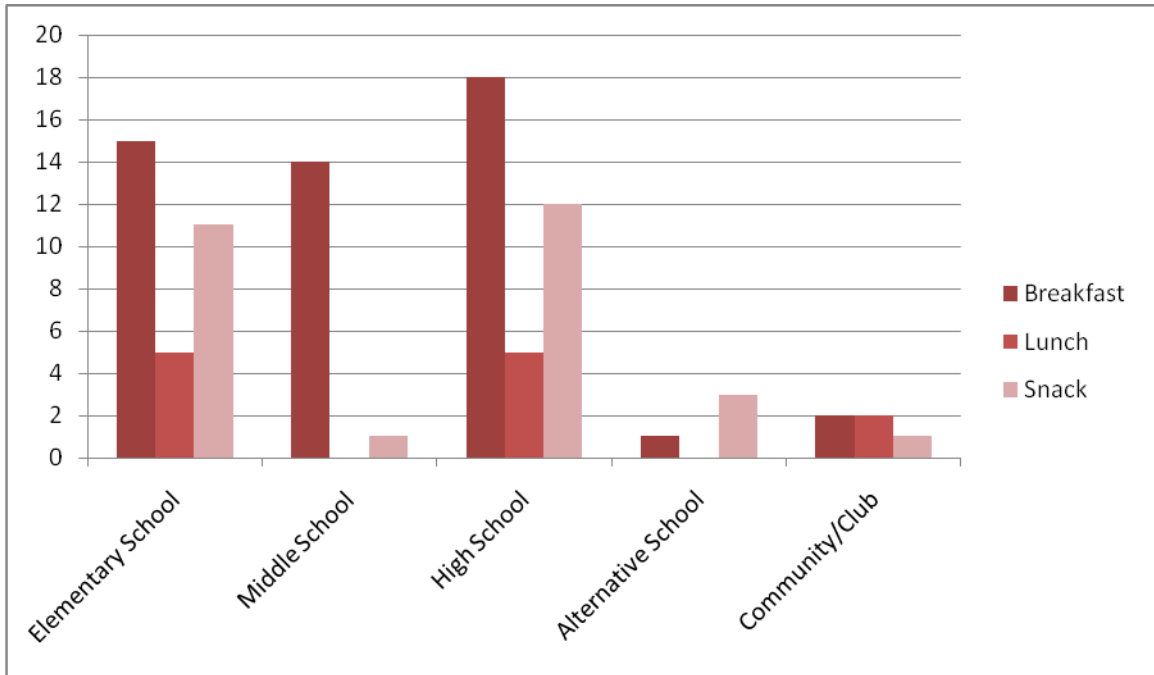
An online survey was sent to 82 program coordinators who run nutrition programs in the region. Sixty-two coordinators completed the survey, resulting in a response rate of 76%. Of those coordinators who responded, 75.8% (n=47) were from Public schools, 21% (n=13) were from Catholic schools, and 3.2% were from either breakfast clubs, or non-profit organizations (n=2). Coordinators were from elementary schools (35.5%; n=22), middle schools (22.6%; n=14), high schools (33.9%; n=21), alternative schools (4.8%; n=3), and community clubs (3.2%; n=2). Figure 5.1 indicates that the percentage of respondents is generally representative of the population by school setting; although community organizations are slightly under-represented.

Figure 5.1: Distribution of Survey Respondents by Setting and by Total Programs

	# of Survey Respondents	% of Survey respondents by setting (N=62)	# in Total Population	% of Total Population (N=82)
Public Schools	47	75.8	55	67.1
Catholic Schools	13	21.0	22	26.8
Community organizations	2	3.2	5	6.1
Total	62	100	82	100
Elementary Schools	22	35.5	29	35.4
Middle Schools	14	22.6	16	19.5
High Schools	21	33.8	29	35.4
Alternative Schools	3	4.8	3	3.7
Community Organizations	2	3.2	5	6.1
Total	62	100	82	100

Among all respondents, nutrition programs that were most often offered were breakfast (82.3%; n=51), followed by snack (45.2%; n=28), and lunch programs (19.4%; n=12). Figure 5.2 illustrates the type of nutrition programs offered by each type of setting; middle schools and alternative schools ran no lunch programs and middle schools mostly offered only breakfast.

Figure 5.2: Nutrition Programs by Setting (N=62)



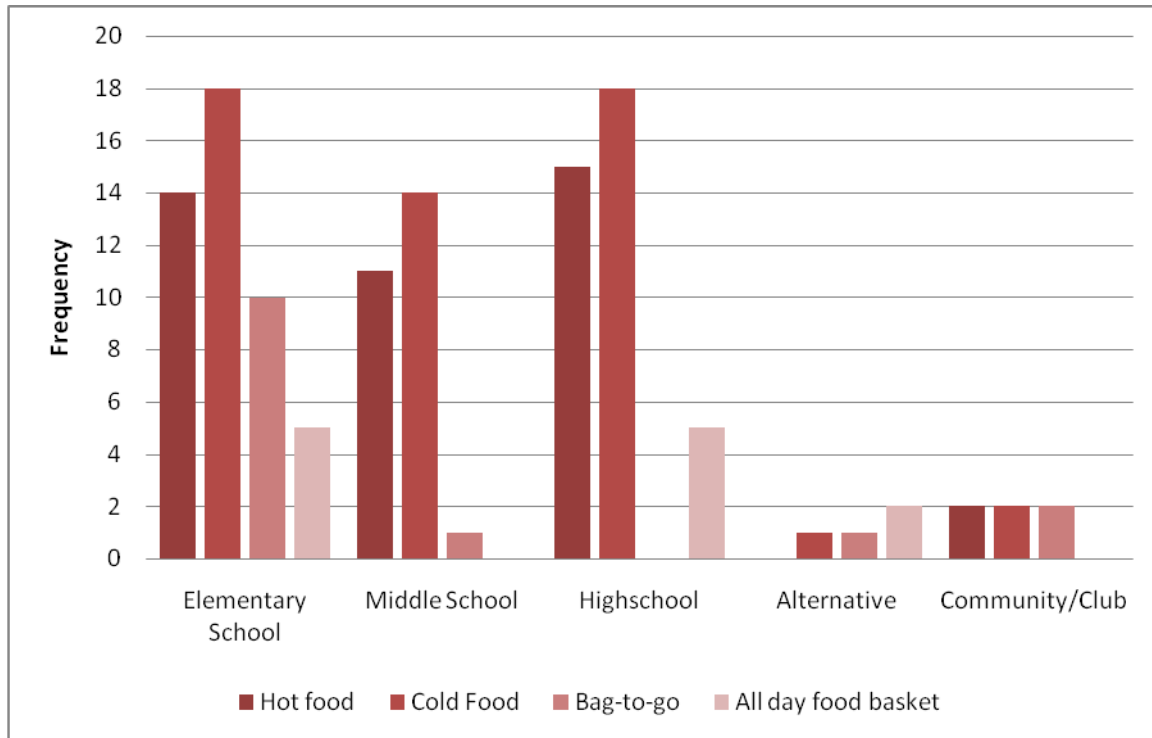
Of the 62 survey respondents, 20 reported offering more than one program (4 offered breakfast and lunch; 8 offered breakfast and snack; and 8 offered breakfast, lunch, and snack). The majority of programs (n=31) only offered breakfast, while 11 offered only snacks.

5.1 B. Types of Food Service

Regarding the type of foods programs offered, 53 coordinators offered cold food (85.5%), 42 coordinators offered hot food (67.7%), 14 coordinators offered bag to go food (22.6%), and 12 offered all day food baskets (19.4%). Of the 61 who responded to this question, the majority (n=29) served both hot and cold food, while 8 offered hot and cold food as well as bag-to-go. Four schools offered hot and cold food with an all-day-food basket. Three offered cold and bag-to-go. One school offered cold food and an all-day-food basket. Only one program offered all types. Fifteen programs offered only one option (cold food = seven, all-day-food basket = six and bag-to-go = two). Figure 5.3 shows the types of foods served by setting. Elementary schools

served the most variety, including hot food, cold food, bag to go and all day food baskets. All settings served cold food and all but alternative schools served hot food. Bag-to-go was not offered in high schools.

Figure 5.3: Type of Food Served by Setting (n=62)



5.1 C. Challenges:

Coordinators were asked in an open ended question, what were the top three challenges of their program. Fifty-seven coordinators responded, and the three most common challenges reported were time (n=25), volunteers (n=24), and funding (n=15). In terms of time challenges, coordinators indicated that it was difficult to find time to shop and prepare the food, as well as fill out required paperwork and funding applications. Not only was there a lack of time for coordinators to implement the program, but there were time challenges related to access and participation in the program itself. Often, students did not arrive within the scheduled program

hours, bus schedules conflicted, and moving students quickly in and out of the program was a major challenge. In terms of volunteers, major difficulties included getting enough volunteers to help with the program, and ensuring that they came in time to prepare and serve. Coordinators also reported not having enough funding to run the program. This restricted their ability to buy healthy foods. Cost of food (at least for healthy options) seemed to be increasing and was therefore, considered a challenge.

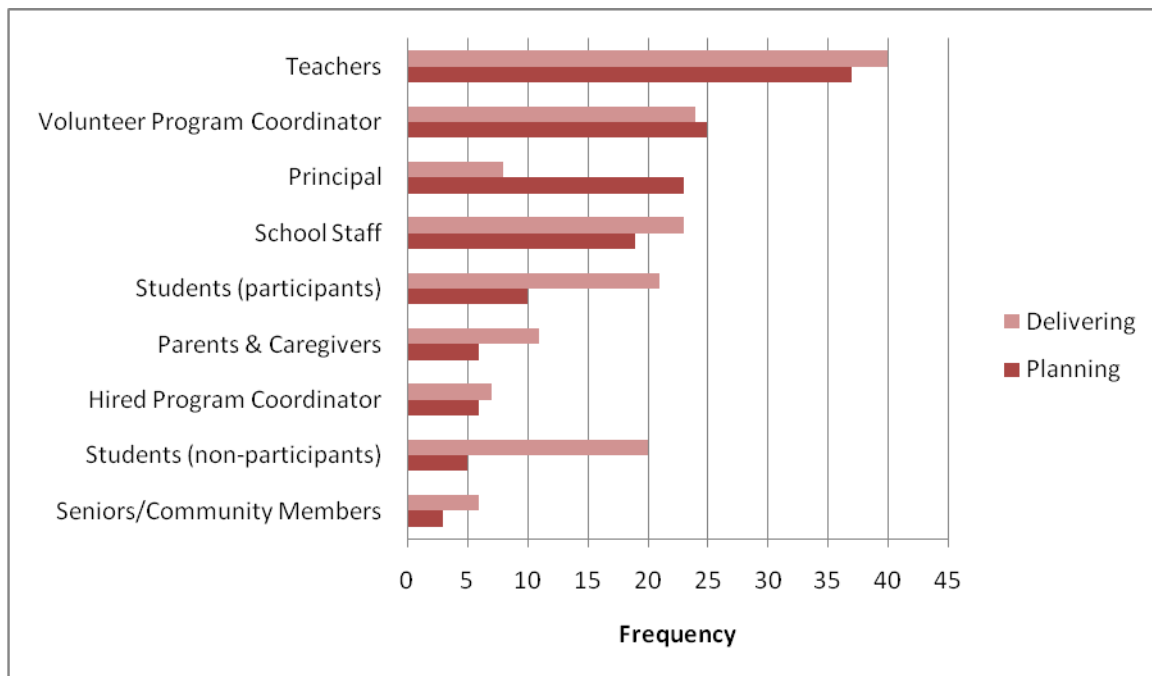
Another very common challenge reported by coordinators was having a variety of healthy food (n=12). Related to this, was the obstacle of serving food that students actually ate. A few coordinators reported a problem with making sure students were eating the food that was served, without wasting it. Facilities' limitations (e.g., storage, space, supplies, equipment) were also a difficulty that many coordinators reported (n= 11). The problems related to facilities led to a lack of variety in foods. Where coordinators had limited facilities in which to prepare food, then the variety of food served was reduced. Other struggles included being able to predict and track how many students used the program (n=7), for example, assessing how much food to purchase each week/month. Seven respondents reported challenges dealing with food restrictions (allergies, cultural restrictions). Only a few coordinators identified stigma as a challenge (n=3).

5.1 D. Human Resources

A variety of individuals helped to plan and deliver student nutrition programs. They included coordinators, teachers, parents, school staff, principals, seniors and community members (Figure 5.4). A few schools also had a “board” which oversaw their program, or had local companies provide volunteers. Figure 5.4 illustrates that the greatest help came from teachers, who were highly involved in the planning (59.7%; n=37) and delivering of programs (64.5%; n=40). They were followed by volunteer program coordinators, of whom 40.3% (n=25)

were involved in planning and 38.7% (n= 24) were involved in delivering programs. There were more volunteer coordinators compared to paid coordinators: 24 programs (38.7%) were delivered by volunteer coordinators whereas seven programs (11.3%) had a hired coordinator. Students in the schools were also involved: ten schools (16.1%) reported that students were involved in planning, and 21 schools (33.9%) reported them delivering programs. Principals were more involved in planning as compared with delivering the program [37.1% (n=23) versus 12.9% (n=8) respectively]. Of the 62 coordinators surveyed, not many had community volunteers planning or delivering programs (4.8% planned; 9.7% delivered).

Figure 5.4: Types of Volunteers Involved in Planning and Delivering Programs (n=62)



There were also differences in the actual number of volunteers that assisted coordinators in their program (Table 5.1). The largest numbers of volunteers included students who attended the program, as well as teachers. On average, coordinators reported having five student volunteers during the year. However, the actual number of students ranged from 0 to as many as

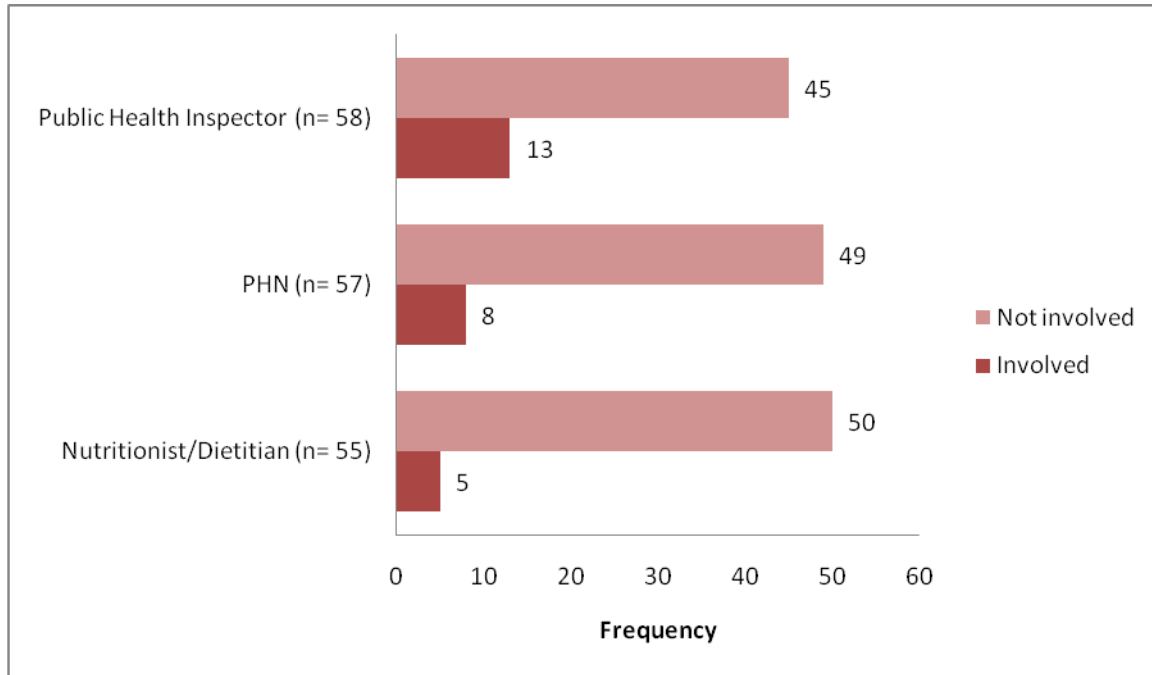
35, depending on the school. Coordinators also reported approximately six teachers volunteering on average, with a range of 0 to 30 teachers.

Table 5.1: Mean, Standard Deviation and Range of Volunteers by Type

	# of Parents/ Caregivers	# of students in program	# of students not in program	# of seniors	# of principal/ VPs	# of teachers	# of community members	# of other helpers
N	62	62	62	62	62	62	62	62
Mean	1.0	5.4	1.3	.1	.5	5.7	.2	.3
Std. Dev.	2.3	8.4	3.9	.3	.7	6.8	.7	1.3
Minimum	0	0	0	0	0	0	0	0
Maximum	10	35	20	2	2	30	4	10

Other stakeholders who were currently involved in student nutrition programs were public health staff, such as public health nurses (PHNs), nutritionists/dietitians, and public health inspectors (See Figure 5.5). More programs had public health inspectors involved (22.4%; n=13) compared to PHNs (14.0%; n=8) or nutritionists/dietitians (9.1%; n=5). Of those coordinators who described their public health support (n=12), six noted having support from public health inspectors; they described this support as the provision of program inspections. Three coordinators described having PHN support including help with menu planning ideas, assistance in finding grants (sources of funds) or securing existing funding. Lastly, nutritionists and dietitians, who were involved, provided information about healthy food options (n=3). They assisted with menu planning, or conducted presentations for students on healthy life styles.

Figure 5.5: Current Public Health Staff Involvement in Nutrition Programs



When coordinators were asked if they wanted more public health staff involvement in their program, of 56 who answered, only 28.6% (n=16) reported wanting more support. Furthermore, 30.4% (n=17) felt they already had sufficient involvement, and 41.1% (n=23) did not want more support. Of the 16 programs coordinators who reported wanting more public health involvement in their program, 31.3% (n=5) were in elementary schools, 6.3% (n=1) were in middle schools, 37.5% (n=6) were in high schools, 12.5% (n=2) were in alternative schools, and 12.5% (n=2) were in community groups/clubs (Figure 5.6).

Figure 5.6: Desire for Public Health Involvement by Setting (n=56)

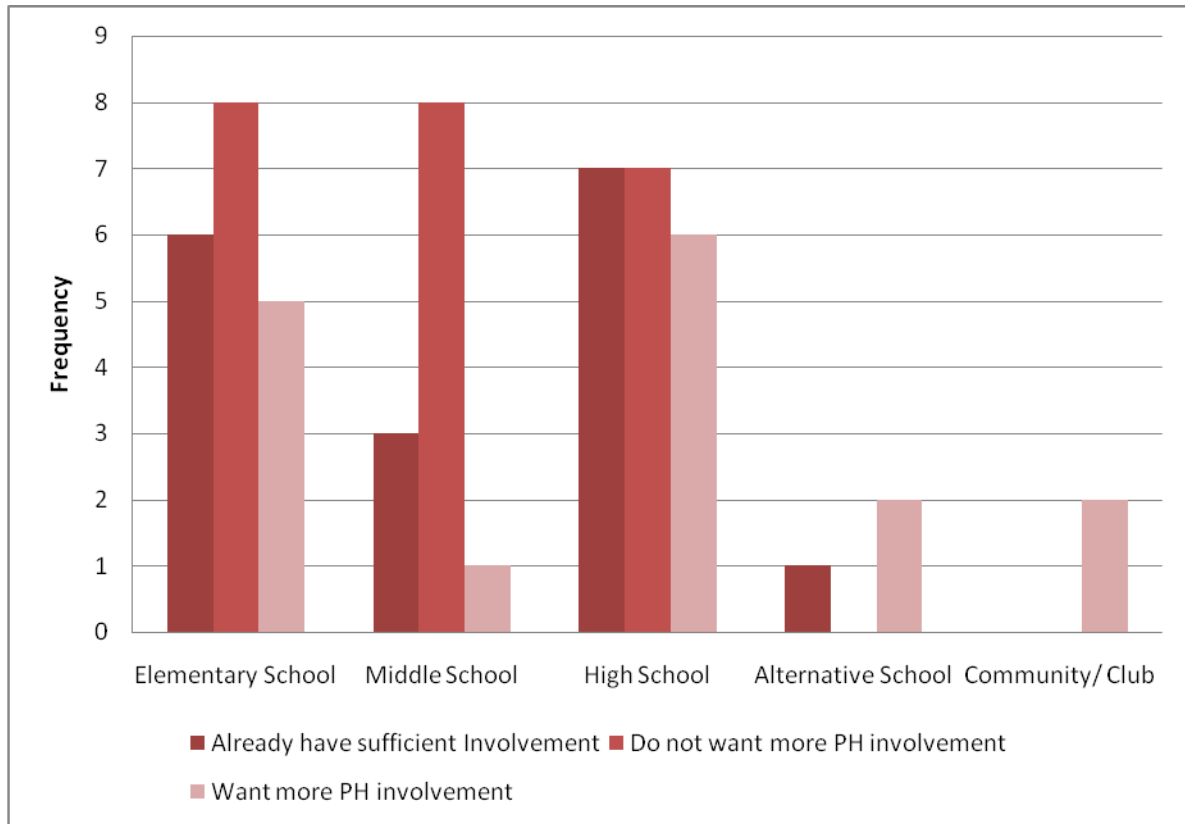


Table 5.2 illustrates how much support is desired by the amount of support they currently receive. Generally, those who did not currently have public health staff involvement, did not want it, or reported already having sufficient. Those who did have public health involvement, generally felt they wanted more.

Table 5.2: Distribution of coordinators who currently have public health involvement by those who would like more involvement

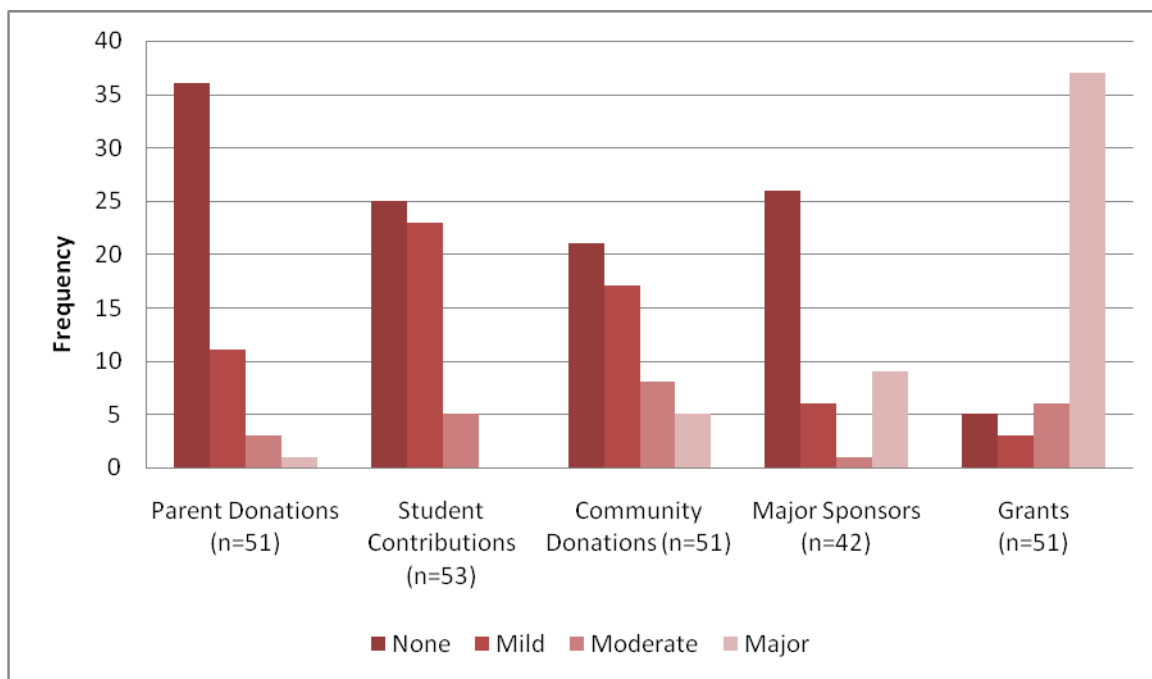
		Would you like more public health staff involvement?						TOTAL %
	Do you currently have involvement?	Sufficient Involvement		No		Yes		
		#	%	#	%	#	%	
PHN (n=53)	No	13	28.9	22	48.9	10	22.2	100
	Yes	2	25.0	0	0	6	75.0	100
Nutritionist/ Dietitian (n=51)	No	13	28.3	22	47.8	11	23.9	100
	Yes	2	40.0	0	0	3	60.0	100
Public Health Inspector (n=54)	No	12	29.3	21	51.2	8	19.5	100
	Yes	5	38.5	1	7.7	7	53.8	100

5.1 E. Funding:

Even though funding was considered one of the most common challenges for survey participants, the majority of coordinators felt that they had adequate money to meet their programs' needs: 61.0% (n=36) said they had "adequate funding." In the survey, coordinators were also asked to rate how much monetary support (mild, moderate, major, or no support) they received from parent donations, student contributions, community donations, major sponsors, and financial grants (Figure 5.7). Most coordinators reported receiving no financial support from parents (70.6%; n=36), from students (47.2%; n=25), from community donations (41.2%; n=21)

or major sponsors (61.9%; n=26). However, 72.5% of coordinators (n=37) reported getting major support from grants and 21.4% from major sponsors (n=9). Those who received support from “other” sources, specified the sources as random community donations (for cereal, granola bars, or gift certificates), small businesses giving in-kind support, or in-kind donations from the principal at the school.

Figure 5.7: Level of Financial/Fundraising Support Received from Various Sources (n=62)

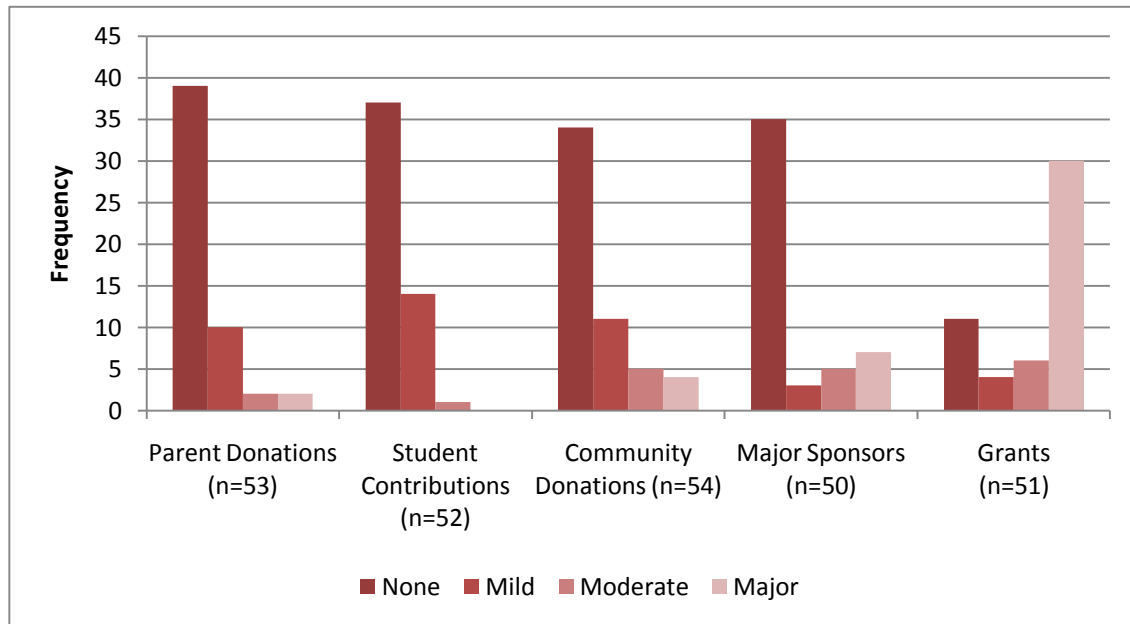


5.1 F. Facilities and Supplies:

Facilities and supplies were also reported to be a challenge for program coordinators; however, the majority of coordinators (78.9%) reported having adequate supplies to meet their needs. Coordinators were asked to rate how much support for facilities/supplies they had received from parent donations, student contributions, community donations, major sponsors, and grants (Figure 5.8). Again, the majority of coordinators received ‘major’ support through grants (58.8%). For those who did not obtain facilities and supplies support through grant

money, they received support through “other” sources; for instance, 50/50 draws, staff donations or food banks. Some coordinators received money from the school to purchase equipment for the program.

Figure 5.8: Level of Support for Supplies Received from Various Sources

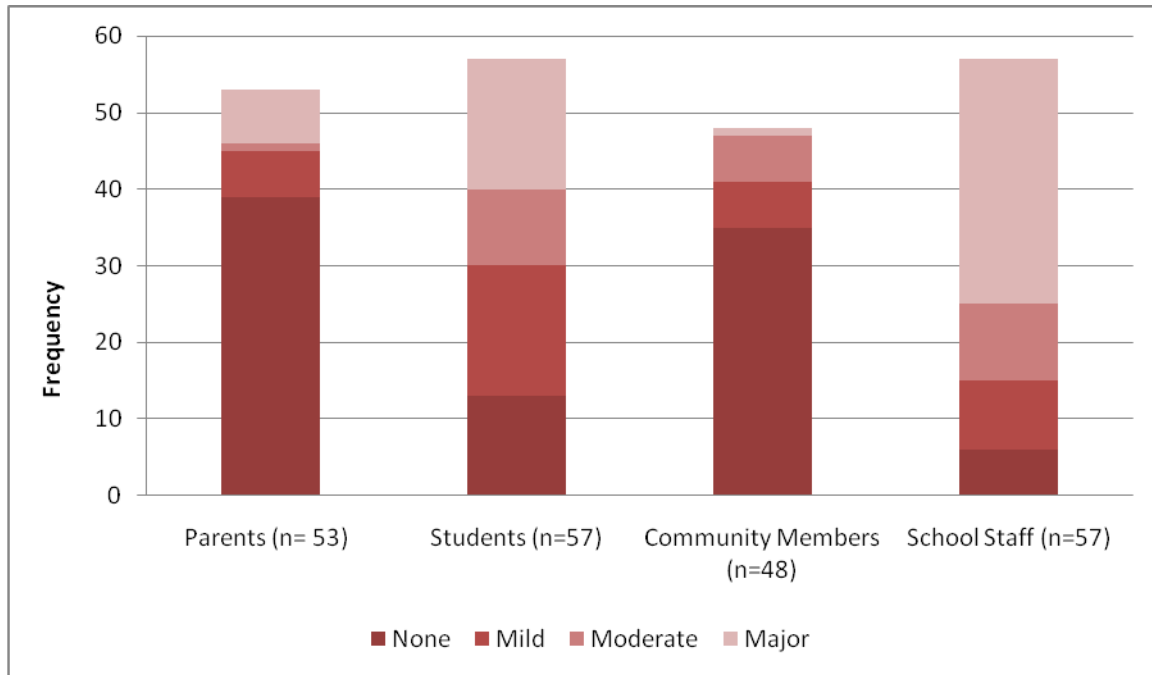


5.1 G. Volunteer Support

Coordinators were also asked to rate how much volunteer support they received from parents, students, community members, or school staff (Figure 5.9). Of those who answered, the majority of coordinators received no support from community members (72.9%; n=35) or parents (73.6%; n= 39). As noted earlier, the most common volunteers were school staff: 56.1% of coordinators considered them a major source of support. Seventeen of the survey participants (29.8%) felt that students were a major source of volunteer support, however, another 29.8% (n=17) reported them as a “mild” source of support, and a further 22.8% (n=13) rated them as “no support”. A small number of coordinators (7.1%; n=2) considered ‘other

volunteers’ to be a “major” source of support; in these cases, coordinators reported having the help of high school co-op students.

Figure 5.9: Level of Volunteer Support Received from Various Sources



5.1 H. Food & Menu

In terms of the menu that programs offered, 48.2% had a consistent weekly menu, 41.1% had a selective menu, and 10.7% had neither. The types of food that were offered varied from school to school. Coordinators were asked in the survey how often they served foods from various food groups (Table 5.3). The majority of programs ‘always’ served vegetables and fruits (75%), grains (87.9%), and milk and alternatives (84.2%). For meats (including fish poultry and eggs), only 7.7% of programs ‘always’ offered meat, while 34.6% of programs ‘sometimes’ served meat and 42.3% of programs ‘never’ served it. Most coordinators also reported ‘never’ serving meat alternatives (52%), such as peanut butter, tofu or beans. Regarding oils and fats,

and ‘other foods’, findings tended to be more mixed. Most coordinators did not serve oils and fats, and if they did, they served very little. In terms of ‘other foods’, 32 coordinators answered this question, and reported ‘sometimes’ or ‘never’ serving other foods. ‘Other foods’ tended to include Jello, pre-packaged food (granola bars), or protein bars.

Table 5.3: Frequency and Percentage of Food Groups Served

	Vegetables & Fruits (n= 60)		Grains (n= 58)		Milk/ Altern- atives (n= 57)		Meats (n=52)		Meat Altern- atives (n=50)		Oils & Fats (n= 50)		Other foods (n= 32)	
	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq
Always	75.0	45	87.9	51	84.2	48	7.7	4	8.0	4	12.0	6	12.5	4
Usually	16.7	10	12.1	7	10.5	6	15.4	8	10.0	5	8.0	4	15.6	5
Sometimes	8.3	5	0.0	0	1.8	1	34.6	18	30.0	15	48.0	24	37.5	12
Never	0.0	0	0.0	0	3.5	2	42.3	22	52.0	26	32.0	16	34.4	11
Total	100	60	100	58	100	57	100	52	100	50	100	50	100	32

5.1 I. Program Training Needs

Menu planning and food safety training were listed in the survey as two possible means of support for coordinators. Possible ways suggested in the survey to get this support were through one-on-one consultations, small group, or large group training. When asked if coordinators wanted this type of support, there was a fairly even distribution amongst those who wanted each type (one on one, small or large group) for both menu planning and food safety training. One exception was that only 8.1% of coordinators wanted one-on-one consultation for food safety (Table 5.4). A large group of coordinators indicated that they did not want support:

29.0% of participants did not want menu planning support, and 32.3% did not want food safety training.

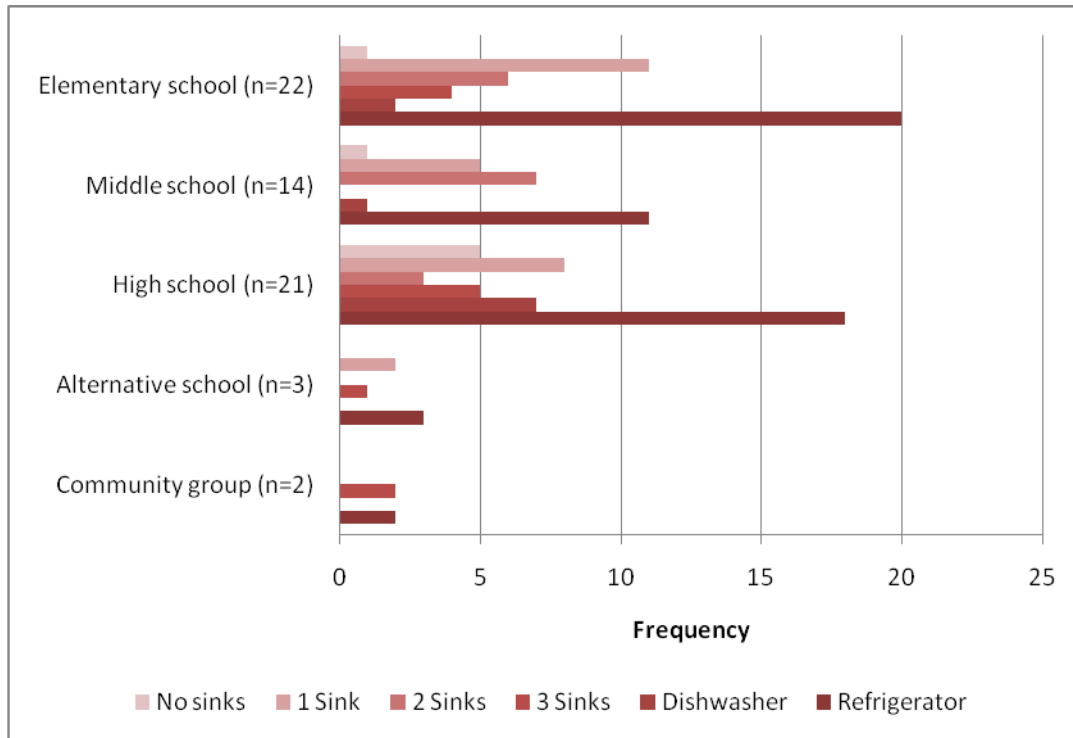
Table 5.4: Number and Percentage of Coordinators who Wanted Menu Planning and Food Safety Training by their Desired Method of Support (n=62)

	Menu Planning & Nutrition Consultation		Food Safety Training	
	%	Freq	%	Freq
One on one consultation	22.6	14	8.1	5
Small group training	25.8	16	27.4	17
Large group training	16.1	10	21.0	13
I do not want support	29.0	18	32.2	20

5.1 J. Facilities

Program coordinators were asked, ‘where do students eat their food?’ Of the 62 respondents, 31 reported that students ate in the classroom and 17 reported that students ate in the lunchroom. Students less frequently ate in the hallway (n=7), the gym (n=3), the kitchen (n=5), or outside (n=4). Most schools where students ate in kitchens, were high schools (n=4). Alternative schools (n=3) reported that students ate in the classroom (n=2) or the hallway (n=1). Regarding program site facilities, the most commonly reported facility was a refrigerator (87.1%). Sinks were available in a large majority of schools (one sink: 41.9%; two sinks: 25.8%; three sinks: 19.4%; no sinks: 11.3%). Few programs had access to a dishwasher (16.1). Figure 5.10 illustrates the type of facilities by setting.

Figure 5.10: Type of Available Facilities by Setting



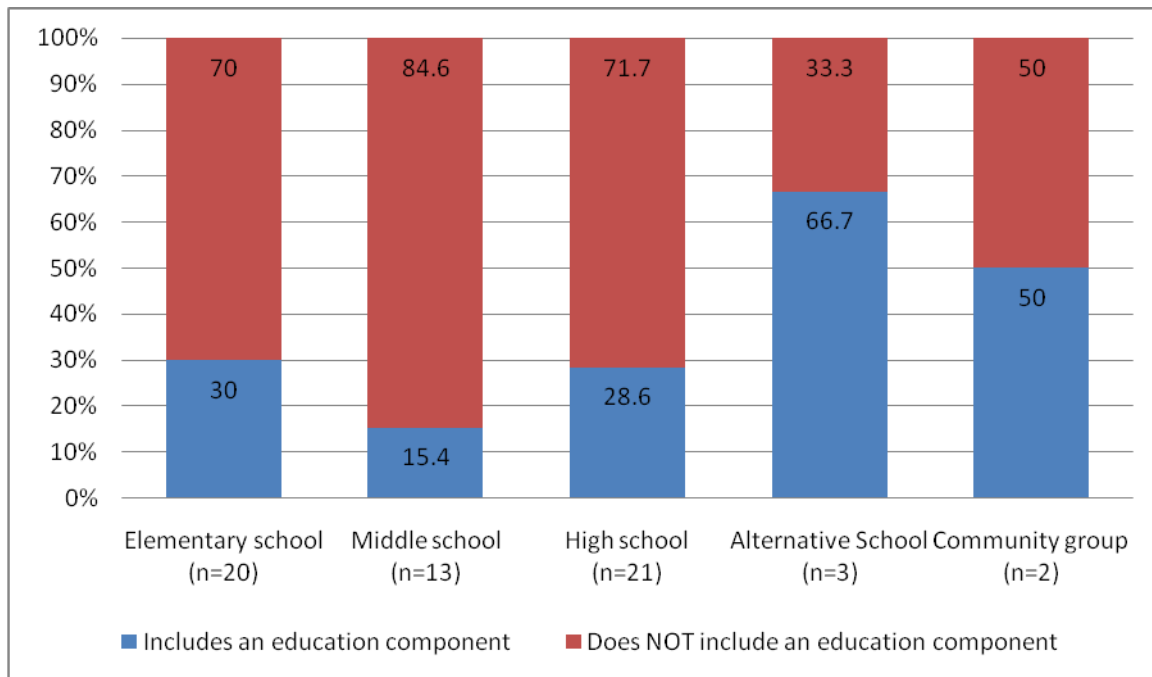
5.1 K. Curriculum Component

Out of the 59 coordinators who responded to the question about offering an education component, 17 of them (28.8%) had education included in their program. The content of this education as well as the delivery strategy varied greatly. Of the 16 coordinators who provided an explanation of their educational program, seven coordinators reported educating students informally about food choices; for example if students asked why they could not have a specific food (ie. cookies), the teachers or coordinator explained why it was not a healthy choice. Also, some teachers encouraged students to choose from multiple food groups as they chose their meal. In one case, a coordinator reported counselling students on an individual basis regarding food choices and proper eating habits. Five coordinators described more formal programming. For example, education programs covered Canada’s Food Guide in health and nutrition class discussions, discussing nutrients and digestion with students in class, reading labels with

students, and visiting grocery stores to compare products. In addition, some programs had students prepare, cook and serve food. One program displayed posters around the school about healthy eating and one requested posters.

While a wide range of nutrition education existed in these programs, many schools (71.2%) did not have education components. Figure 5.11 illustrates the percentage of coordinators who reported offering education by setting. By comparing percentages, alternative schools and community groups were more likely to offer education, however cell sizes were too small to support statistical analysis. Middle schools were less likely to offer an educational component compared to other settings.

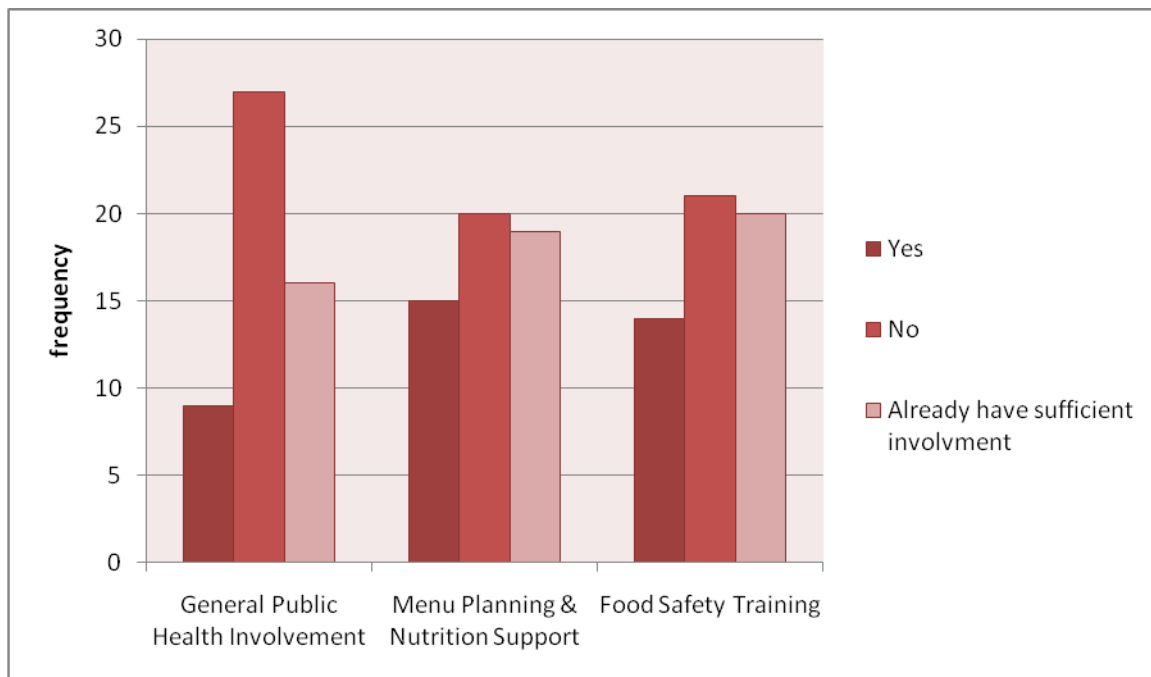
Figure 5.11: Percentage of Coordinators Who Reported Offering Nutrition Education by Setting (N=59)



5.1 L. Program Support

The type of support from public health that coordinators reported wanting the most was menu planning and nutrition support followed by food safety training. Their least preferred type of support was general public health support (Figure 5.12). In terms of general public health support, of all respondents (N=52), 9 wanted more support (17.3%); however, 27 did not want support (51.9%), and 16 felt they already had enough support (30.8). With respect to menu planning and nutrition support, of 54 respondents, 15 coordinators wanted more support (27.8%), 20 did not want support (37%), and 19 had sufficient support (35.2%). The desire for food and safety training was very similar to menu planning and nutrition support [(14 said yes to more support (25.5%), 21 said no (38.2%), and 20 had sufficient support (36.4) (N=55)].

Figure 5.12: What Support Do Coordinators Want?



When comparing results by type of setting (Figures 5.13, 5.14 and 5.15) coordinators from elementary and high schools had fairly similar results for the three types of supports

[(general public health involvement was desired by 25.0% for elementary and 16.7% for high school level), (nutrition and menu planning was desired by 31.6% for elementary and 26.3% for high school), (food safety training was desired by 30.0% for elementary and 23.8% for high school)]. Roughly one third of respondents in elementary and high schools fell into each group of a) wanting support, b) not wanting support and c) having sufficient support. Middle schools were more likely to not want support compared to other settings. The majority of alternative schools had sufficient help in terms of general public health support, nutrition and menu planning, as well as safety training. On the other hand, coordinators from community programs reported wanting menu planning and safety training. They did not, however, want any more general public health involvement. It should be noted that the numbers of respondents in these latter groups were very small.

Figure 5.13: Coordinators’ Desire for Public Health Involvement by Setting

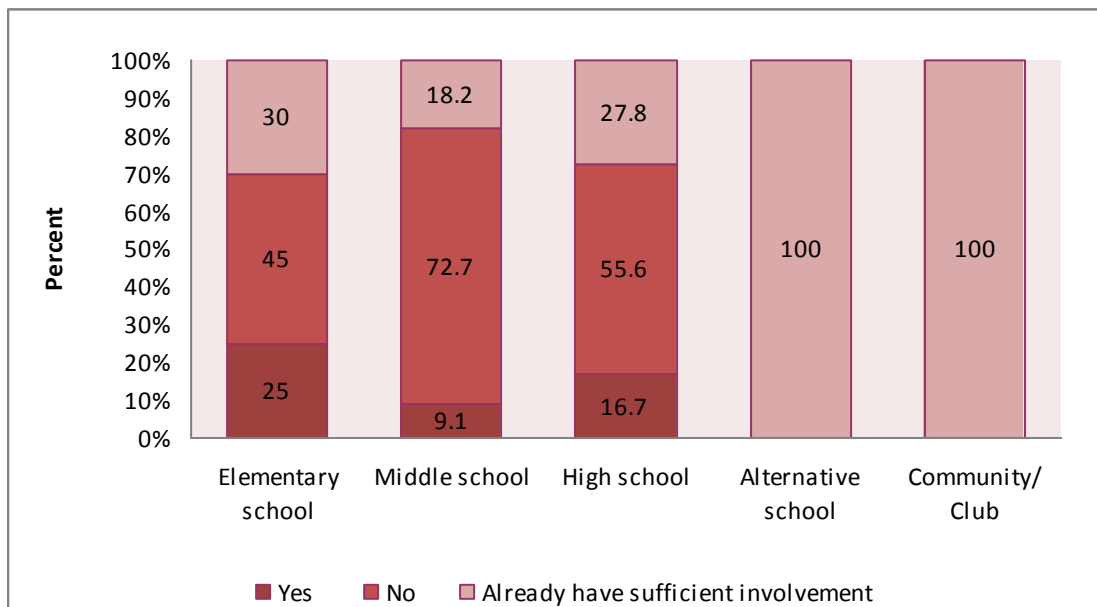


Figure 5.14: Coordinators' Desire for Menu Planning & Nutrition Support by Setting

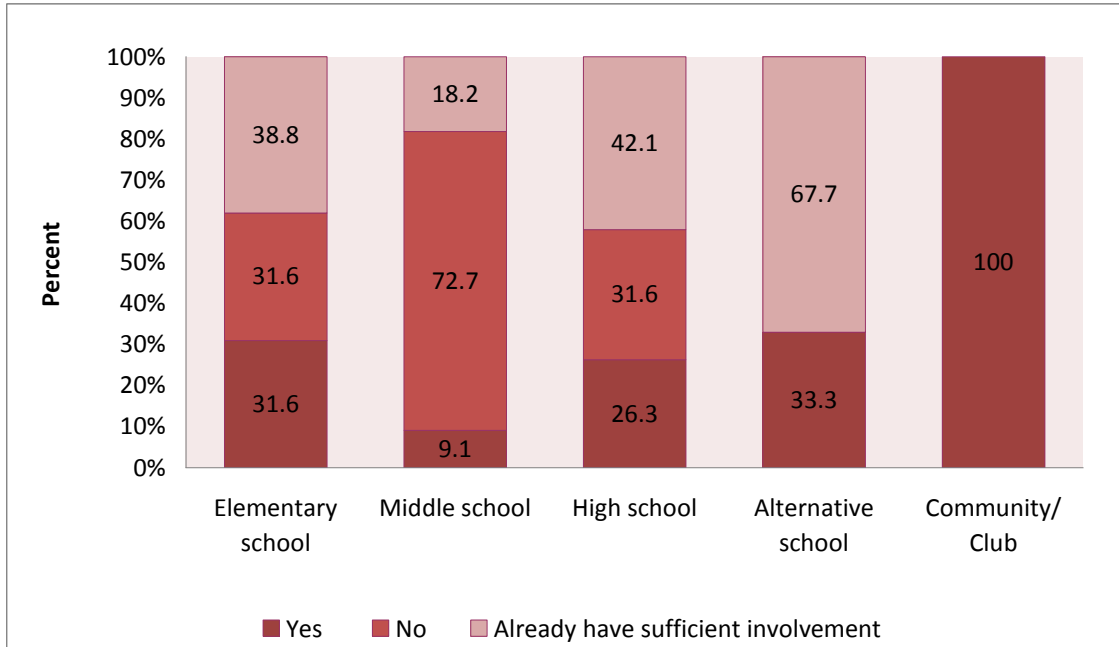
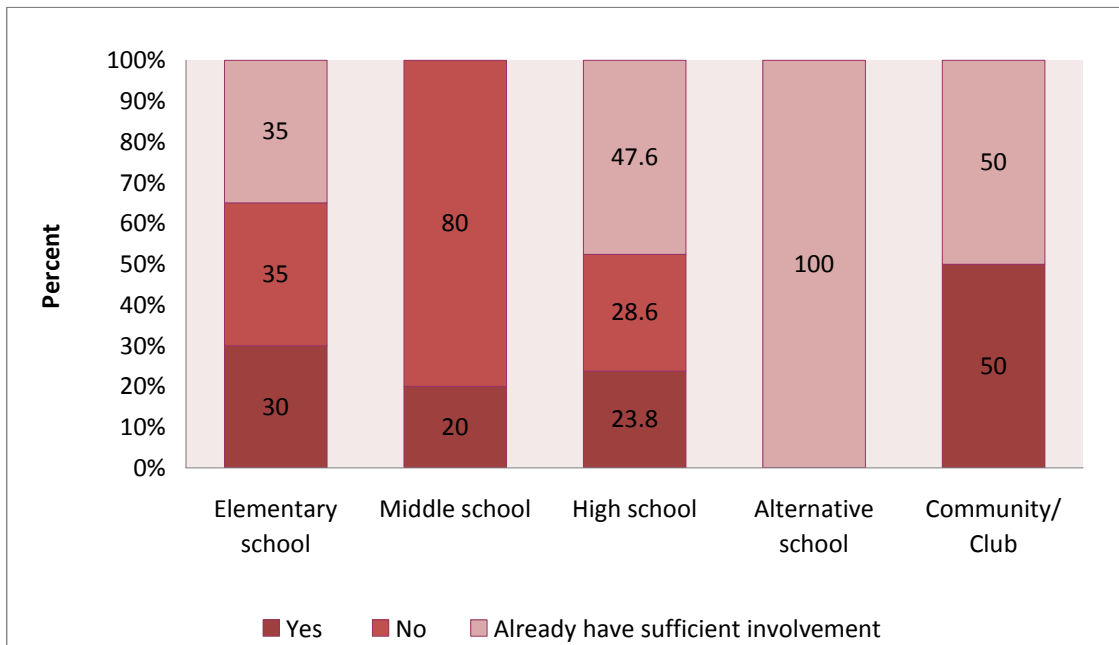


Figure 5.15: Coordinators' Desire for Food Safety Training by Setting



5.2 Interview Results

5.2 A. Participants:

Of the 62 survey respondents, 39 coordinators agreed to participate in the interview when asked on the survey. Once contacted by email to set up interview times, only 22 coordinators accepted the invitation to participate and were interviewed. Of these coordinators, 8 (36.4%) worked in elementary schools, 5 (22.7%) were from middle schools, 7 (31.8%), were from high schools, and 2 (9.1%) were from alternative schools (high school that offers alternative educational programming tailored to the specific needs of struggling students). No coordinators were interviewed from programs that were offered by community groups or clubs. Of all nutrition program coordinators in the Region (excluding the newest programs), 27.1% were interviewed (Table 5.5). Of all nutrition program coordinators who were operating in schools, 70% of them were from public schools, while 30% were from Catholic schools; of those who were interviewed, 81% were from public schools and 18% were from Catholic schools. Therefore, Catholic programs were slightly under-represented and community coordinators were not represented in the sample used for the qualitative interviews.

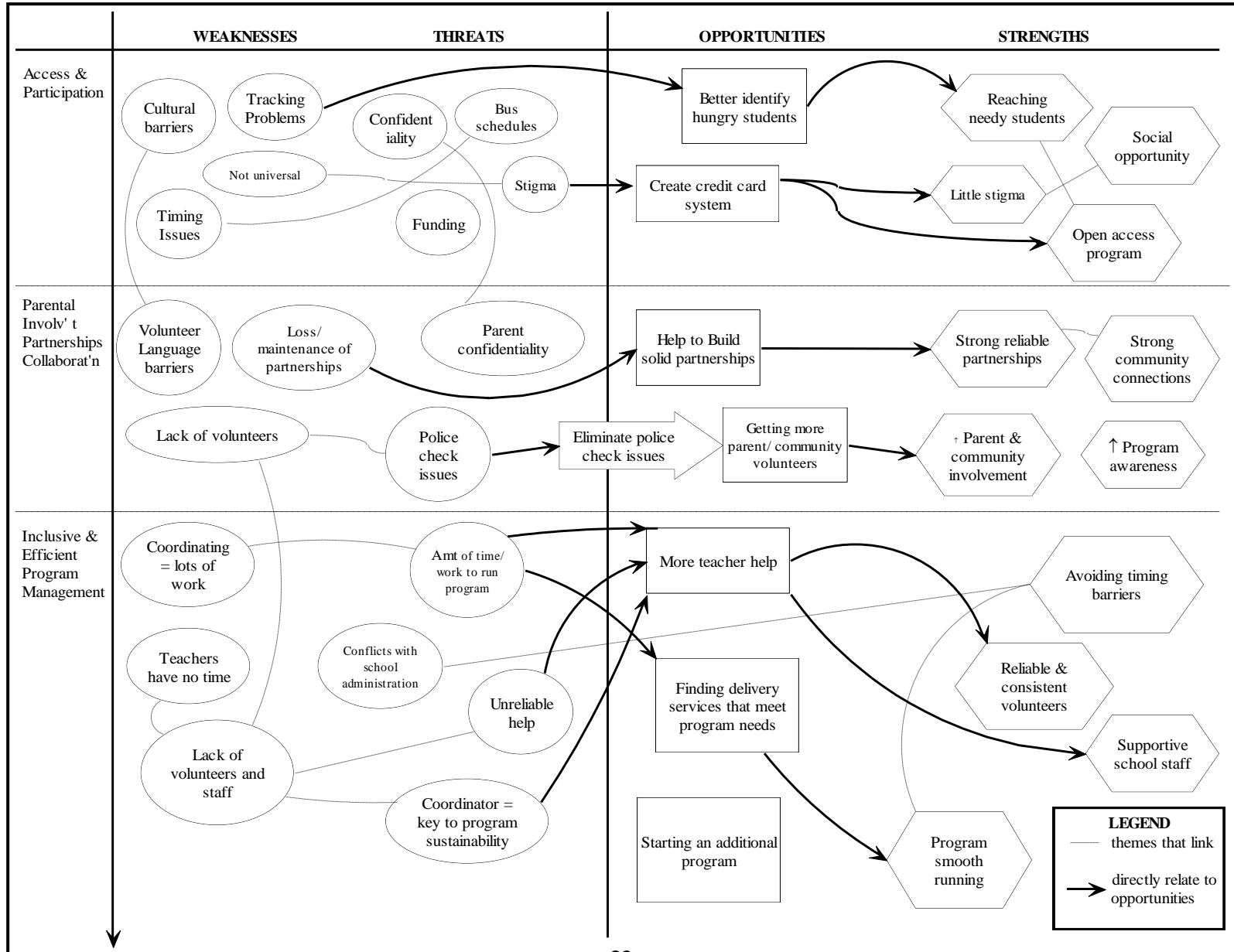
Table 5.5: Distribution of Coordinators in the Region and Coordinators who were Interviewed

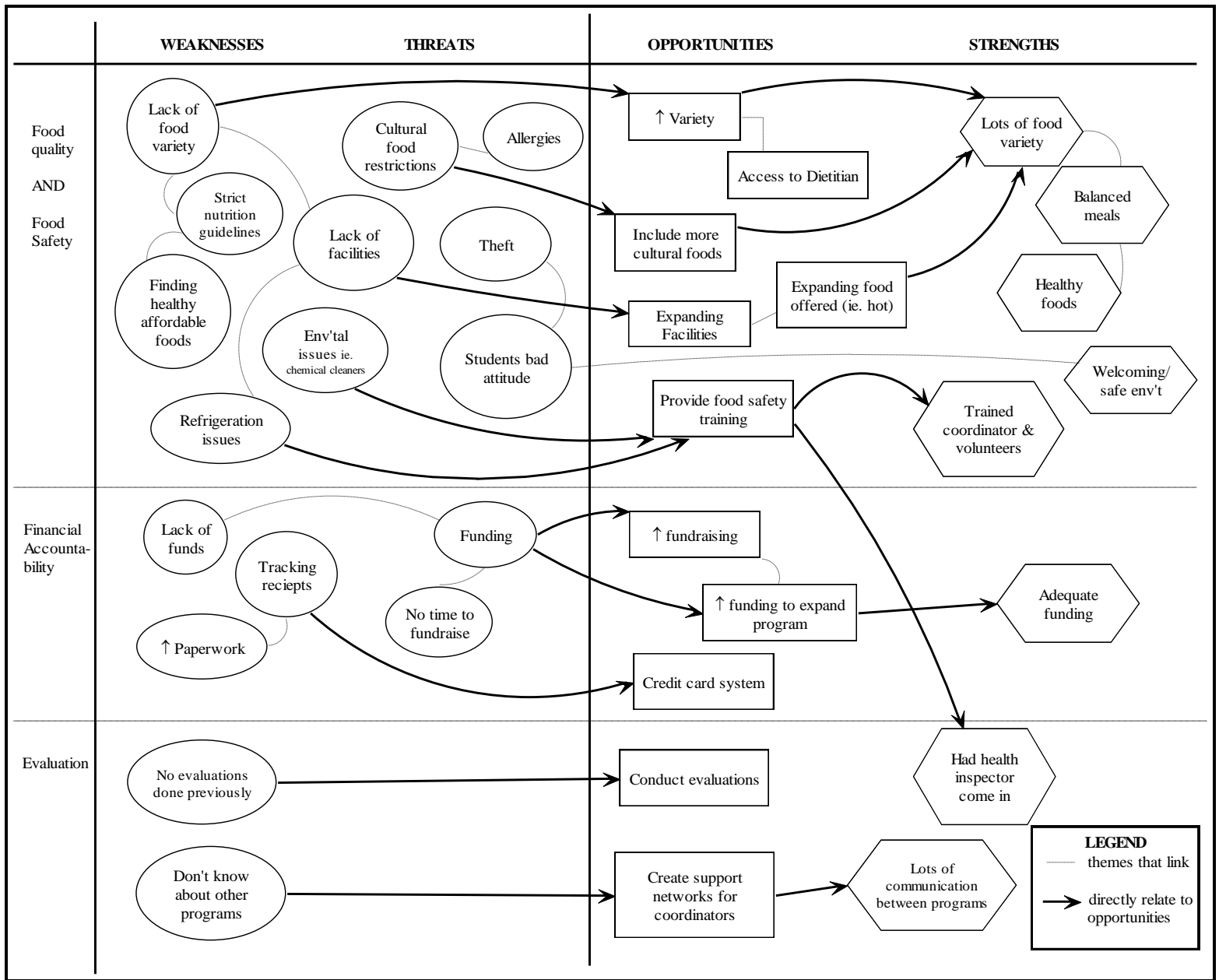
	Setting	Nutrition Programs		Coordinator Interviews		
		Freq	% of all program	Freq	% of all coordinators who were interviewed	% of Nutrition Programs Coordinators in Region
Public	Public Primary	22	26.8	7	31.8	8.5
	Public Middle	16	19.5	5	22.7	6.1
	Public High School	13	15.9	4	18.2	4.9
	Public Alternative	3	3.7	2	9.1	2.4
Catholic	Catholic Primary	6	7.3	1	4.5	1.2
	Catholic High School	17	20.7	3	13.6	4.0
Comm-unity	Community Groups	5	6.1	0	0	0
TOTAL		82	100	22	100	27.1%

The next section presents the major themes from the interviews data, which provides a general description of programs represented by those who were interviewed, as well as the strengths, weaknesses, opportunities and threats as reported by program coordinators. The themes are organized according to the components of best practices for nutrition programs that were set out by the OCNPEP (Evers & Russell, 2005). These components include: access and

participation, parental consent /involvement, partnerships and collaborations, inclusive and efficient program management, food quality and education, food safety, financial accountability, and evaluation. Figure 5.16 illustrates the themes within these components organized further under strengths, weaknesses, opportunities, and threats as reported by coordinators. In this figure, dotted lines represent themes that are linked or associated with one another, whereas solid lines indicate themes where opportunities exist for improvement or can overcome weaknesses and threats.

Figure 5.16: Relationships Among Themes By Components and SWOT Analysis





5.2 B. Component One: Access & Participation

Table 5.6: Major Themes Pertaining to Issues of Program Access and Participation:

Access and Participation:			
Strengths	Weaknesses	Opportunities	Threats
Offers open-access to students and staff	Lack of universal availability	Providing food more days a week	Potential for stigma
Provides social opportunity for students	Timing problems with bus schedule and school schedules	Desire to better identify hungry students	Timing issues with bus schedules
Reaches large numbers of students	Difficulties tracking use of food and participants	Formalize program more to increase participation	Lack of funding; require student fee
Reaches and supports needy students	Cultural barriers (types of food, certain cultures do not accept charity)		Confidentiality
Little stigma attached to program use where programs were universal			

The first element of school nutrition program best practices guidelines relates to participation and use (Evers and Russell, 2005). Coordinators of student breakfast programs (of those that participated in the interview) served anywhere from 5 to 150 students daily with the majority of programs serving a range of 25 to 50 students per day. Lunch programs generally served the same number of students; however the upper limit was higher, reaching up to 250 students. Many programs served student populations in low income areas. For example, eight program coordinators reported that their schools were located in lower income areas; nine reported high diversity with many ESL families; and a few others reported having many single-parent families in their school. A coordinator from a public elementary school stated,

our community is very diverse, low income and single moms or single dads and foster homes and group homes in this area so...we get a lot of the same students year after year and it's a lot of the ones you know with single moms. Like whenever they have multiple children and things like that.

There were a number of reasons that the coordinators felt explained program use. Some parents chose to send their children to the program, while others were rushed at home in the mornings with no time for breakfast. Coordinators also reported that some children preferred the food offered at school as compared with home. The most common reason for participation that coordinators reported was related to the social aspect of the program:

They use it actually more as a social place to meet up in the mornings and we will have groups of 5, 6, 7 students that will all come in together because it is a social type of aspect there. We have times that parents will say I don't want my child to participate because we do have food at home and I'll say it's not because of the food. A lot of them come because their friends are coming there. (Public Middle School Coordinator).

Program participation also seemed to be weather-dependent, where numbers attending programs significantly increased during winter months or rainy seasons.

A number of strengths were reported by coordinators related to participation and use of nutrition programs. Most program coordinators felt that their program reached the students who needed it most. They felt the programs were openly accessible and inviting to students: "It's a very inviting program. There are certainly no questions asked as to who shows up...it's just a place to come and grab that extra bit of breakfast." (Public Middle School Coordinator) Some coordinators running more than one program during the day noted that it was often the same students who were at breakfast that were sent to school without a lunch that day. Some first-period classroom teachers, reported using discretion and sending specific students whom they knew were at higher risk, or if they noticed a student with lack of attention or energy. A few

programs were specifically referral-based. For example, they were targeted for students behind in credits or with specific behavioural problems.

While many coordinators felt their programs were reaching all students, others admitted that they were not necessarily reaching everyone. A common barrier to program use was parents not bringing their children in on time. Most program hours were strict, and coordinators felt that it was often those students who were always brought in late who needed the program the most. Also, students who were bussed to school often missed the program because of timing issues; this was the case for eight programs. To compensate for this, half of the coordinators explained that extra food was available after hours for those students who missed the program or were hungry.

Cultural issues also presented a barrier in some programs:

...because we are a very diverse cultural group...there is a stigma that some students particularly in the east Indian culture feel accepting charity...it's not in their cultural nature therefore we are trying to find different ways of addressing this issue. (Public High School Coordinator)

Coordinators are currently trying to find ways to address these issues to eliminate the barriers associated with program participation.

Program coordinators were also asked to comment on any stigma they felt was associated with the use of the program. As expected, the few programs that reported stigma as an issue were the ones where students used the program on the basis of referrals or where the program was specifically geared towards high-risk students. Almost all other coordinators felt that there was little to no stigma attached to using the program. The laid-back attitude of programs along with the social aspect for students was felt by many to create enough of a welcoming environment that

students felt comfortable attending; coordinators felt that the students did not think twice about who attended.

Programs coordinators who reported that there was potential stigma were also using different techniques to try to eliminate it. Rather than specifically tracking which students ate what, coordinators tried to loosely monitor the program so students did not feel that they were being watched or centered out. Another technique was to let students and parents know that the program was open to all, i.e. for anyone interested in eating breakfast, including teachers and staff. A further technique was to make the program an enjoyable social event, so students felt that they were participating in an occasion rather than a program.

In some instances, access was threatened by costs to participate. Some programs still relied on parent donations to successfully run their program. Eleven coordinators reported asking students to give a small donation, ranging from 25 cents to a toonie per meal. However, they did make exceptions for low-income students. This could also present a “stigma” issue for those students who could not afford even 25 cents to participate. One creative way reported by a school to eliminate stigma was to initiate a card program. Students who could afford it would pay in advance and receive a card that was stamped each time they used the program. Students who could not afford to pay would receive a card free of charge, and only teachers would know who had paid and who had not. One coordinator mentioned using this system; two others were considering it for the future.

The most common program strengths reported by coordinators in terms of access and participation included the following: feeding many students, reaching and supporting needy students, and providing a social opportunity for the whole school. In addition, three coordinators

felt their programs were very flexible in terms of how they were run. This increased access. One coordinator at an alternative school sent food bins to classrooms and commented on its flexibility: “it’s like going to them with the program rather than...asking them to come...it’s not pushed on them...I don’t ask for money from them...it’s just there”. Most of the coordinators at high-schools said they offered food throughout the entire day as well, so food was there for students whenever they needed it. Also, coordinators discussed the type of environment that the program created and its impact on participation. If the program was welcoming and friendly, they found more students came because they enjoyed it. The most common strength reported was the social aspect of the program. Seven coordinators felt this to be essential for program implementation and participation. For some programs, the social aspect happened by default, whereas other programs really tried to incorporate the social aspect intentionally by including teachers, and other school staff. A principal of a Catholic elementary school offering breakfast stated:

I really do love the connection. I have seen other breakfast programs where they just give out the food and I think you miss...an awful lot...if it’s just volunteers handing out the food to the kids, then it’s just a restaurant...I think if you can get the teachers to sit down and have breakfast with the children and do the bagel thing and just kind of shoot the breeze for ten minutes...I think you see the real benefit from it.

There was also a social connection between students at the programs as well, where they would arrive not necessarily for breakfast, but because their friends attended the program. The social element seemed to have a large positive effect on program participation.

The most common weakness in terms of program participation was timing. Coordinators had the difficult task of implementing these programs before a certain time of the day (ie. before the first class of the day). It became increasingly difficult since teachers (who often were the

volunteers for the program) could not supervise past a certain time. As mentioned previously, many bus schedules clashed with program timing, and some students living further away would miss the program entirely. Trying to make time to access all students without disturbing the flow of the regular school day seemed to be the biggest challenge for coordinators. For instance, when a coordinator of a public middle school was asked “what are the main weaknesses of your program?”, she responded:

I think one of them is definitely the time frame for running the program, but to change the time frame from 8:00 to maybe 8:15 and run it to quarter to nine...poses another set of issues or concerns. Um, one being supervision because if we change the time and we have more students coming, we don't necessarily have the supervision from the staff, to be able to support it.

Trying to make it work for both the students and the staff was a common challenge. Other less common challenges regarding use and participation were related to tracking which students used the program, and ensuring that students took and ate everything they were given. For example, one public elementary school coordinator explained:

At one point we were saying [to students], ‘no you have to take one of everything’ and then we are finding that a lot of our fresh stuff was just dumped outside. So we say take what you want, take what you are hungry for and you can eat...You can save it for recess but don't take cereal if you don't want cereal

When coordinators were asked if there were any future opportunities they saw that could help support or improve the program, many suggested expanding the program to be offered more days per week. Also, a few spoke about the importance of the consistency of the program. One coordinator said:

[the program has] really taken off the last couple of years, but it's important to maintain it. Like you pretty much have to start the first week of school...and keep it going or else the kids complain like they say

‘where’s breakfast’...they really rely on it. (Public high-school coordinator).

Some hoped to run the program more days per week, and to try to access more food to make the program more appealing to students. Another opportunity mentioned was finding ways of better identifying hungry students without stigmatizing them. The card program was one opportunity mentioned to help address this issue.

There were not many threats in terms of this OCNPEP component, however a few of the alternative program coordinators specifically offering the program to at-risk students, felt some pressure to expand their programs to the whole school. This was not realistic in most cases. A coordinator for a specific alternative school program explained:

I am sure there are hungry kids at our school... that are not in our program that are in regular classes [and] they just happen to carry themselves okay academically so they are not identified... So I guess in terms of growing it being more accepting [of those students] definitely, for the kids who need it. I just have no idea how you track it

Some programs did not have the funds to be able to offer it to the whole school, so tracking became an issue.

5.2 C. Component Two: Parental Involvement/Consent/Partnership & Collaboration

Table 5.7. Major Themes Pertaining to Issues of Parental Involvement/Consent/Partnership & Collaboration

Parental Involvement/Consent/Partnership & Collaboration			
Strengths	Weaknesses	Opportunities	Threats
Building strong, reliable partnerships	Loss of partnerships or difficulties finding and maintaining partnerships	Building and finding solid partnerships	Parents & confidentiality issues
Program awareness	Difficulties recruiting community or parents	More community involvement	

Strong community connections	Difficult process to become a volunteer (ie. police check issues, no time, too many steps)	Getting more volunteer help and parental involvement	
Building trust with families	Language barriers for ESL parents/volunteers		

Eight coordinators who participated in interviews reported having parental involvement in their programs. Parents were only involved in programs offered at elementary schools. High school programs either did not seem to need parent assistance, or parents did not help because students did not want them there. For those schools that had parent volunteers, their roles included food preparation, serving and/or clean up. Some programs did not ask for parent volunteers because they felt the program ran smoothly and extra help was not needed. One coordinator explained that:

Parents are well aware and I don't think that it's necessarily something that they need to be a part of unless we didn't have the volunteers. Then we'd probably have to push outside more in the community and say we need some more parents to volunteer, but we've always had enough... (Public high school coordinator)

Also, some coordinators tried to avoid getting too many people involved because they would run the risk of having too many opinions of how things should be run.

In terms of parental awareness of programs, coordinators reported using various ways of trying to get the information out to parents. Some coordinators sent pamphlets home, or they put program information in students' agendas in hopes of increasing program awareness. Other coordinators would specifically talk to parents about the program at the beginning of the year. Some parents were aware of the program, but thought that it is only for those who were lower-income students and therefore, they would not send their child to the program. A few of the

schools would obtain parental permission before a student could participate, thereby getting information on special needs or allergies.

Coordinators also tried to increase community awareness in an attempt to build partnerships with organizations close by for monetary or in-kind support. Most partnerships were with grocery stores or bagel shops (Great Canadian Bagel or Tim Horton's). Factors affecting what partnerships were developed with grocery stores or food shops included the following: the area of the school, what stores were in close proximity, who managed the store or who was in charge of distribution of funds/goods. In some cases, parents would go out into the community and try to build partnerships with stores or organizations with which they [the parents] were associated. One coordinator stated: "Parents were good about lobbying stores and advocating for the program and so we'd get gift certificates that sort of thing or food donations, which is great..." Another respondent stated:

Here the parents go out and they have a partnership with the Lions Club ... [or] they have donations that come from Maple Lodge Farms...and they go out and purchase a lot of things, [with] the money that they have been given for the program.(Public middle school coordinator)

Altogether, interview participants had existing partnerships with stores or organizations involving either monetary or in-kind support; in total, 19 stores/organizations were identified. A few participants reported strongly relying on these partnerships for the well-being of the program.

A few coordinators (3) felt that their collaborations with outside organizations was a major strength of their program. They felt they had strong community connections and succeeded in building reliable partnerships. When asked 'what does your program do very well?' a coordinator of a public elementary school responded: "we're very good at building partnerships. We have to have partners that support us whether [it is through] the region, the food

bank, Great Canadian Bagel, whoever. We build but then we maintain good relationships”.

Another reported strength was program awareness. Some programs would create whole-school events that included families in order to increase awareness. A public elementary school coordinator explained:

“one thing that we did to heighten the interest was on education week we served a healthy lunch to the entire school from 4:30 to 6 o’clock, so families came [and] had a free dinner and we gave them the uh recipes for what we were serving that night...[also] every family is given a personal tour of the healthy lunch and breakfast program as part of the information that they’re given”.

Coordinators have become creative in finding ways to incorporate parents and community into the programs.

While a few programs listed partnership-building and community awareness as a strength, many programs also found this to be a major weakness. Some programs wanted to make partnerships, but had major struggles. A few coordinators reported asking a store for example, if they would be willing to help support the programs. They would not hear back.

I wish [we had more] partnerships, I wish more people, more community agencies would be willing to be involved. Umm, I’ve made tons of phone calls at the beginning of this semester, and had a really hard time having people phone me back....I approached Costco, I approached No Frills, Loblaws, all of those kinds of things...to see if they had, like ya know day old stuff that they could like donate...and rarely do people call me back”
(Public alternative school coordinator)

Another problem reported was when a potential partner was already helping one school and could not take on another one. Other programs were able to create partnerships, but lost them because companies either moved away, or new management was hired and this new management was not willing to continue support. Another frustration for coordinators was the inconsistency of franchises. Some store locations were willing to partner up with a program while other locations of the same franchise would not. Coordinators felt they did not always have the time to

try and find one location that would be willing to participate. Ten program coordinators reported difficulty or frustration in either creating or maintaining partnerships with community stores/organizations.

Another common weakness reported by participants involved challenges around getting volunteers. Timing seemed to be a major issue when trying to recruit volunteers to help with the program. Many parents had jobs they needed to get to early in the morning, or had other children in daycare and could not give their time to help. Another common barrier mentioned by study participants was the process involved in becoming a volunteer. Coordinators felt that parents lost interest in becoming a volunteer because of the many steps they needed to go through, for example, getting a police record check. One study participant stated:

I think it's more, I think it's a barrier not because people are scared to get them, because I think it's a time challenge, and offices are only open certain times and you have to go to specific locations and people who live maybe outside of that area, it's just an extra step for them to do and sometimes they say it's not worth my time. (Public Middle School coordinator)

One program coordinator also reported having some confidentiality issues with parents where they [the parents] would go back into the community and discuss which students were attending the program. This could be considered a threat to the program. Another barrier to parental participation in a program was the language barrier for those families who had recently come to Canada. Many of the communities in the region were highly diverse, so it was not uncommon to have a parent who does not speak English. These parents would be much more reluctant to participate in a program. All of these factors affected whether parents could or were in fact willing to participate in a school's nutrition program.

Opportunities reported by coordinators also included building stronger partnerships and community connections as well as increasing awareness and parental involvement. One

coordinator spoke about including parents and the community into the program and what benefits that could bring to the students and the program itself:

More community involvement would always be great. Getting the support of the parents to not only send their students, but also to volunteer their time would be great. And I think having parents do the serving in a way kind of frees up not just the staff and students, but it also gives them the opportunity to see the kids in action at school. And really we feel that they are reaching out to them, it would help to cross cultural lines as well and we have kids from all cultures coming to eat in the morning. So it helps with that. That would be wonderful. (Public High-school coordinator)

5.2 D. Component Three: Inclusive & Efficient Program Management

Table 5.8: Major Themes Pertaining to Issues of Inclusive & Efficient Program Management

Inclusive & Efficient Program Management			
Strengths	Weaknesses	Opportunities	Threats
Supportive school staff	Coordinating requires lots of work	More teacher/staff help	Unreliable/inconsistent help
Lots of staff involvement	Teachers not having time in the AM	Starting an additional program, i.e., breakfast & lunch	Amount of time and work it takes to run program
Reliable volunteers	Lack of volunteers/staffing	Finding better delivery options	Difficulties in tracking food and students
Avoiding timing barriers	Lack of facilities		Conflicts with school administration (janitors, principals, teachers)
Program runs smoothly	Issues with delivery services		Sustaining program if coordinator left the school

Most of the program coordinators who participated in interviews were involved in nutrition programs that had been running anywhere from one to eight years. The majority of

them, were from newer programs, or were new to the role of the coordinator. There were however, a number of study participants who had been coordinating the program since its inception.

At least ten of the programs of the 22 coordinators interviewed offered meals five days a week. The others generally offered meals two or three days per week. Breakfast program hours started as early as 7:30 AM; however they generally ran from 8-8:30 AM. A few of the programs sent food bins to classrooms where students had access to them all day.

In terms of program process, there were three general ways that coordinators collected food for the program. Food was either delivered using a service, parents and/or designated staff would pick up food for the program, or the coordinators would go out themselves to a local grocery store to buy food for the program. A few programs had partially student-run programs as well, where a teacher would take students out shopping to buy food for them to cook. The majority of coordinators interviewed, however, picked food up themselves. A few were able to order food in bulk, depending on how many students their program served.

A variety of individuals assisted in running the nutrition programs, all on a volunteer basis. The most common volunteers were school staff and teachers (reported by 18 coordinators) followed by parents (reported by 8 coordinators). One program had an employed nutrition coordinator who helped run the program. However, all other coordinators who were interviewed, were volunteers. Other players included principals/vice-principals, custodians, university students, and other community members. Volunteers would take on a variety of tasks as well, based on the needs of the program. For example, one coordinator explained:

I am basically the one that runs the program. I have uh, 5 teachers that participate and help out. The shifts of the teacher are from 7:40 – 8:10 and

then 8:10 – 8:40. So the first group of teachers will be there to help out with the food with preparation and cooking of the food. The second duty of the teacher is to monitor the kids that are eating and then support the students that are cleaning up and putting things away and making sure that things go well (Public Middle School)

Other types of support that assisted with program management included organizing in-kind donations or monetary supports that a program could receive. It also included developing partnerships with the community, order and delivery services a coordinator could use, and other collaborations with other schools in the area. One common partnership that all program coordinators had was with the director of the region's nutrition programs. Through the director, programs had access to food that the director received (such as fruit or boxes of cereal) and they also reported having the director's support for any training or facilities they should need. One coordinator who was very appreciative of the director's support stated:

...And then we get donations. I don't know what we would do without them like the cereal... [we'll go to the director] and she'll say oh I got tons of cereal or something like that, so we'll go up and get you know like 100 boxes of cereal to stock up.

The most common strength reported by coordinators was having a supportive school staff, either through verbal encouragement of the program or having staff physically helping out. Coordinators were very thankful when they had staff at the school who were positive about the program, committed to coming on time for their shifts and willing to give 100 percent of their energy in assisting with the program implementation. One coordinator said: "one [strength] would be um, staff involvement. We have 31 staff that volunteer to help out,...which is wonderful because it actually lightens the load to keep everything running". Many coordinators felt that their programs would not run if they did not have the help and support of the school staff. Also coordinators found it helpful to have the support of other members of the school, such

as the principals/vice-principals as well as custodians. They considered it a major strength when the whole school was on board with the program. One teacher spoke to the fact that having staff support, especially custodial support, was helpful:

A lot of schools are finding it difficult [to maintain the volunteers and keep the program running] because it is a lot of work. And it's a big commitment um, by a lot of people and we need that commitment so we have been lucky here, that's a strength... Plus, our custodian here is always on top of things. He always provides space for us to eat in the cafeteria um as long as kids clean up after themselves.... That's probably the biggest strength of this program: everybody um buys into it and knows how important it is for the kids...

Coordinators also spoke to the fact that staff needed to be reliable in order to consider their participation to be a strength of the program. Some programs had a lot of staff said they were willing to help, but perhaps forgot that they were on shift, or left early for prior commitments. Having a reliable group to work with took a huge load off of the coordinator.

Common weaknesses regarding inclusive and efficient program management included the amount of work it took to coordinate a program, the time it took for teachers to help, the lack of volunteers, and issues with delivery services. The job of the coordinator could be very stressful, depending on what resources and volunteers were available, and the needs of the students. Coordinators were also responsible for the accounting all of the funds and keeping track of how money was spent. One coordinator clearly described many of these issues:

I see it as a weakness in terms of my own time commitment. And that's a big thing in this program is the amount of time and the intake. People want accountability in terms of how are the dollars being spent and I understand that, but all that paper work filling out a schedule and getting the things bought, going to the grocery store, all of those things take extra time. Um and this is a volunteer thing not you know...you know no remuneration for it. We just recognize what the benefits are to us and to the school um and the connections. So in terms of weaknesses I would say the time, time

would be nice, if we had more time. (Public Middle School Coordinator)

The time it took to coordinate these programs (not only volunteer hours) is what seemed to be the major weakness reported by at least ten of the interview participants. One coordinator stated: “I think a lot of people don’t understand how time consuming it is” (Public High School Coordinator). It became even more of a challenge when teachers were the ones coordinating. Eight coordinators spoke about the fact that teachers did not have time in the mornings before their classes to help with the program. The coordinators needed the helping hands if they wanted to cook anything more elaborate as well, so if teachers did not have the time to contribute to the program, the foods offered had to stay pretty basic. Coordinators also had to keep the school staff and teachers in mind when they chose how to run the program. They needed to ensure that it did not interfere with the regular school day and that the program worked for everyone in the school. A coordinator from a public middle school stated:

I think the program has to work for everybody...It needs to work for our parents who come in, it needs to work certainly for the kids because that is why we are doing it. The custodians are affected um so you know we need to minimize the mess that we leave for them. Um, and it needs to work for the teachers as well and one of our issues is we have a couple little guys [think] it’s a good way of getting out of class.[We teach them] you have to get to class on time regardless if you are having breakfast or not...So it needs to work for everybody who’s involved and the entire school community.

General lack of volunteers was also problematic considering most programs were volunteer run. Six coordinators reported wishing they had more help to run the program. Just because the staff encouraged the program, did not mean that they were willing to put in the extra effort to physically help out. Getting outside volunteers to come into the school also posed a challenge. These are the same challenges that were discussed in the previous component.

Another major issue some programs encountered had to do with food delivery services. Most of the delivery services required a minimum amount to be purchased before they were willing to deliver, and some programs were too small to purchase such large amounts of food at a time. Some programs could spend the minimal amount required, however, it was still a challenge to buy foods with a short shelf-life such as fresh fruit and vegetables, milk or yogurt.

We tried to partner up with the high school that we share a parking lot with, because the one company that we had access to wanted a minimum of \$600 a month... we do spend more than \$600 a month, but a lot of that stuff is...fresh and we couldn't wait a whole month and wait for another delivery. So that was one of our dilemmas and it didn't work. (Public Middle School Coordinator)

For some of the alternative schools, coordinators found it hard to estimate how many students they would have in a given week. Since the number of students was so fluid, it was challenging for a coordinator to estimate accurately for a monthly delivery. Some other challenges that were present included ordering through a service or buying in bulk. One coordinator from a Catholic high school explained as follows:

They are really pushing the whole ... ordering service, and... it just seems to me it's going to be very difficult for us to utilize that service...They then have control, because they put a list of what we can [and] can't buy from their whole list. They put together a list of nutritional foods that fall into certain guidelines, certain standards, so they are kind of limiting what that money can be spent on. I kind of get that, ya know if I'm buying Twinkies and HoHo's for the kids every day with that money, it's not really what it's intended for so I kind of understand, but I also feel they've got to maybe have some faith and trust in the people that are running the programs, I guess that they are going to be providing for the most part nutritious foods

When coordinators were asked what opportunities they saw for the future of their program, a few reported wanting to start a lunch program, or at least wanting to offer their existing program more days a week. One coordinator from a public high school said: "I would

like to be able to offer more, because breakfast is great but it may not be enough. I would like to see it move into a lunch program”. However, most stated that in order to expand their program, they would need more volunteer support. They also felt that with more support, they could get more creative with the types of food they could offer to the students. As expected, many coordinators wanted more time in general, more teacher help, and more volunteer involvement. The expansion of their program seemed to be highly dependent on what support they received from community, parents and staff. A couple of coordinators wished they could find a delivery service that would work easily for them, thereby reducing the amount of time they had to spend shopping for food every week.

The main themes regarding threats that were identified by coordinators and related to program management were very similar to the reported weaknesses. For instance, the major threats faced by the programs were as follows: the amount of time or work to run the program (reported by 12 coordinators), lack of volunteers (reported by ten coordinators), and inconsistent and unreliable help (reported by five coordinators). Some new themes did emerge in terms of sustainability of the program. Funding was the major threat for almost every coordinator who was interviewed. They worried that the government would stop giving funds to BFK, especially in the midst of a recession. When discussing fundraising, coordinators reported not having enough time to go out into the community and fundraise to keep the program sustained. A few coordinators mentioned that trying to get funds from the school or from the parents was very difficult because different school groups already did fundraising for many other purposes. A public elementary school coordinator stated:

I mean there’s fundraising for everything in the school. You know what I mean? There is fundraising for books, there’s fundraising for gym equipment, so I don’t know... how we would work it in. And we don’t do a

lot of fundraising...we had a dance-a-thon and I think that's it. So the rest usually goes for educational things (Public elementary school coordinator)

The other major issue in terms of sustainability of a program revolved around the impact that would be felt if the current program coordinator should ever leave the school. Six coordinators felt they would be worried that no-one would take over their role if they ever left. One coordinator, when asked about being worried about the sustainability of the program, indicated that she would only be worried if she left the school. She explained:

I personally think it won't [be sustained]. I have actually applied for a new job in 2012/2013 so right now I am already wracking my brain, what's going to happen? Are the kids going to be fed? And that's my big concern all the time (Public middle school coordinator)

One other threat for program implementation that was common among five coordinators related to conflicts with school administration. Many teachers did not allow students to eat in class, so students had to finish their meals in the program room, or before they started first period. In other instances, students were not allowed to eat in the hallways, so coordinators had to find a space for students to eat that did not conflict with administrative policy. Also, coordinators worried about students leaving a mess after eating. This could create issues with custodial staff. In addition, coordinators had to arrange their programs early enough so students would have enough time to eat and get to class on time. If the program ran too close to class time, and the students did not arrive to class on time, it might appear that the program was encouraging students to be late. These were some of the common threats that coordinators had to deal with when implementing their nutrition programs.

5.2 E. Component Four: Food Quality & Education

Table 5.9: Major Themes Pertaining to Issues of Food Quality and Education

Food Quality and Education			
Strengths	Weaknesses	Opportunities	Threats
Lots of food variety	Lack of food variety	Getting more variety in foods	Children with allergies/food restrictions
Provides balanced meals	Strict regulations; Difficulty in meeting nutrition guidelines	Finding snacks that are affordable and healthy	
Provides healthy foods for students	Difficult to find healthy, affordable foods	Include a wider variety of cultural foods	
	Cultural food restrictions	Expanding program: including hot foods	
	Limited menu due to lack of facilities	Expanding available facilities	
		Incorporating healthy eating into daily curriculum	

Nutrition programs described through interviews offered a wide variety of foods including eggs, toast, bagels, cereal, applesauce, yogurt, granola bars, oatmeal, peanut butter, pizza, hamburgers, hotdogs, grilled cheese, salads and wraps. Eighteen programs offered some type of fruit or vegetable, and twelve offered some type of milk product. Eleven programs reported offering cereal and bagels on a regular basis, eight offered granola/breakfast bars, and ten programs offered pancakes and/or waffles. These were the most common foods offered. When asked what guided their food choices for the program, six coordinators mentioned

following the BFK guidelines they received when they started the program. A few coordinators explained that they generally used their own judgement when buying food for the program. They would serve food to the students that could be eaten on their own time. A few reported not taking advantage of certain partnerships because they [the partnerships] were not willing to give healthy foods. One Catholic elementary school coordinator who had the option of getting day-old donuts from a local store said:

I absolutely refuse to serve donuts for breakfast... These kids don't need any more sugar. But the whole staff was not for donuts every day. I mean there's no point, you might as well give them nothing as give them a donut... so we stick to the cereal, and try to provide good cereal.

A couple of coordinators brought up refusing to serve specific foods, even when students made special requests. However, when asked what foods they served at their program, nine coordinators talked about including foods that were of interest to the students (some that followed guidelines, and some that did not). Some discussed looking for cereals with high fibre content, choosing whole wheat breads, offering real cheese rather than processed, and choosing foods that were low in fat and low in sugar. Only two coordinators reported serving ethnically diverse foods. A public elementary school coordinator offering a healthy lunch program chose foods based on special occasions. She mentioned having certain foods that represented Black History month or Heritage month. She explained: "yesterday [we served] vegetable curry with rice, and ah, ah next Tuesday we are having simosas and pulal, and the volunteers make it, during those special months". The programs that included ethnically diverse foods either had a very diverse population that they served, so coordinators wanted to incorporate the culture of the students, or coordinators served a variety of new cultural foods to expose students to something they may not have had before.

In terms of education, ten of the coordinators interviewed said their programs reported offering nutrition education, either directly or indirectly. Five programs purposefully tried to teach students about healthy foods. A few examples of direct education in the schools included: having nutrition posters up all over the school, having students describe during morning assemblies the nutrition content of the lunch offered later that day, having students shop for the food themselves and having teachers helping them with label reading. Two schools had programs where students shopped and cooked themselves. Other coordinators mentioned having community food advisors (peer educators trained to teach basic food skills and healthy eating) coming in and doing workshops with the students as well. Five coordinators also mentioned indirectly teaching students about nutrition. Those running the program would explain why they were offering certain foods or why they could not serve others. In other instances, teachers in the classrooms would have nutrition components incorporated into their lessons. A few schools had a physical education course that ran along-side the program, thereby incorporating healthy eating and physical activity. A public middle school coordinator, when was asked if there was any nutrition education component in the school's program, responded as follows:

Oh definitely, we stress about healthy eating, what's healthy for you, the negatives of having sugar in the morning, so it's some of the discussion going on at all times. We do, do it through phys ed classes, we do health classes where we you know go through the food guidelines and what is appropriate to have every day and what you should be having as someone your age. So we try to do a lot of that.

A few participants discussed the school nutrition environment in general, and talked about what other foods were available in the school but were not part of the nutrition program. Some also mentioned the importance of teachers and school staff modeling good eating habits as a further a means of education. A public high school teacher said:

The kids quite honestly, nutritionally speaking, I don't think have healthy diets. Uh we finally got rid of the pop machine that was offering coke and all this stuff now. We have finally got rid of them in the cafeteria and the only thing offered is fruit juice, water and uh coke zero, so there is no sugar or calories...So it's getting better but that took us two years to do that... And I mean it's really important and I don't think the kids look enough at their health and the consequences of their eating habits....I think I eat quite healthy and it's important that everybody especially the adults in this school model that behaviour too so they are not bringing in McDonalds and things like that that are extremely unhealthy. (Public high school coordinator)

In terms of the major strengths reported by the coordinators regarding food quality, the only strength mentioned related to food variety. Six programs felt they served a wide variety of foods that students enjoyed. Some explained that participation would increase on days where certain foods were served. One stated, "I do notice that sometimes we get more...kids coming in for social reasons on a Wednesday when we are having waffles then on other days when we have bagels" (Public middle school coordinator). Three coordinators considered providing well balanced meals to be a strength, along with serving food that was healthy for the students.

While food variety was considered a strength for some coordinators, others consider it to be a real weakness. Many struggled with what to serve when they did not have the facilities available. A few programs did not have refrigerators, sinks, or even storage space, which greatly limited how much variety they could give. Others did not have enough funds to expand their menus. Some admitted that they did not serve the healthiest options. Healthier food costs more and as a result, some coordinators struggled with cost-effectiveness versus offering healthy foods. Programs that sent bins into classrooms were very limited in food variety since foods had to be generally non-perishable. They struggled to find foods to include in the bins that were reasonably priced and that in addition, fell within the nutrition guidelines. For instance, one coordinator stated:

I wish we did offer more... you know, with all of like the regulations and stuff like that, like I can't have stuff that really needs to be refrigerated, in there. So...I think in a way it's a strength and a weakness. I can access kids throughout the whole day, but at the same time I'm limited on what I can offer. (Public alternative school coordinator)

Other challenges facing a few of the coordinators in terms of food choice included allergies and cultural or religious food restrictions. Many schools in the region were culturally diverse, and some coordinators recognized the fact that there were cultural foods that would really benefit the program and thereby reach out to more students. However, due to funding, timing, and lack of volunteers, offering those types of foods was not realistic. Some students came from families with certain religious beliefs that restricted what foods they could eat. Coordinators often felt overwhelmed trying to cater to all cultural and religious needs. One public elementary school teacher talked about this. She said:

With yogurt, I thought it was just gelatine, but there are other things that aren't acceptable as well so you have to be careful...I don't really cater to the religious, like I say I try to but I ask the parents to educate their children as to what they can and can't eat in that case. It's just the allergies that I can keep track of.

One other common challenge facing coordinators was meeting nutrition guidelines set by the Ministry or BFK. A few found it difficult to find out the nutritional value of foods. They did not know which products were affordable, while at the same time falling under the guidelines set for them. A few discussed the specific challenge of trying to find granola bars that fell under the guidelines. Granola bars were, however, a common product served by some programs, especially for bin or grab-and-go programs. The struggle with reading labels was discussed by a public elementary school teacher: "some of it's by the bar, some of it's by the grams some of it's by serving...trying to evaluate what is the healthier choice? And that's where sometimes I don't know". They also found it hard to buy foods that followed the guidelines and that students would actually eat. A few coordinators spoke about students only taking certain foods offered with the

result that a lot of food was thrown out. It was difficult spending money on foods that students would not eat.

Regarding opportunities related to food quality, the most important consideration was to get more variety. Coordinators reported that they would love to serve something different every day, rather than the same foods each time. Having a broader menu was felt by some to be an essential change. At the same time, it was important to find snacks that were affordable and healthy. Coordinators (n=6) saw many opportunities for increasing their menu, if only they had more adequate facilities. For example, a few programs that only served cold food would have liked to incorporate hot food to their menu. This was, however, not possible because they did not have full kitchens available to them. Also, coordinators with schools in culturally diverse areas mentioned wanting to include more cultural foods. One coordinator stated: “we have a very diverse community in respects to culture and we tell the kids if there’s anything you make at home that might be interesting here, we’re welcome to try it”. They said, however, that students tended not to respond.

5.2 F. Component Six: Food Safety

Table 5.10: Major Themes Pertaining to Issues of Food Safety

Food Safety			
Strengths	Weaknesses	Opportunities	Threats
Great atmosphere for students	Lack of facilities/Nowhere to serve students	Expand facilities	Lack of facilities
Place for students to feel safe	Allergies	Have a designated place to serve and feed students	People taking food without permission
Volunteers & coordinators trained in food safety	Refrigeration issues		Negative attitudes towards program (from

			staff or students)
Students participate in clean-up	Keep program environmentally friendly		Environmental issues (chemical cleaners)

A lot of food safety issues for coordinators were dependent on what facilities programs had available to them. Of those interviewed, thirteen program coordinators had access to a fridge, seven had toasters, five had freezers, five had grills, three had microwaves, and two had dishwashers. Four programs had access to full kitchens. Four programs were run through the staff room, while others used either classrooms, main foyers, gyms, or other miscellaneous rooms in the school.

Most of the strengths reported by coordinators regarding safety revolved around the fact that the programs provided a good atmosphere for students. Coordinators reported that students thought of it as a place to feel safe, and they enjoyed physically being at the program. Other reported strengths were that students were responsible and good about cleaning up their area. Three programs had community food advisors, or registered dietitians come in to conduct workshops with the students regarding food safety issues. A Catholic high school coordinator mentioned:

We had [people from] the Region of Peel come in and...they did a whole um, kind of workshop with the kids. [We had] two nutritionists come in and they did a whole presentation on, you know, food, proper food handling and that type of thing.

One other coordinator felt that having trained volunteers in food health and safety was a major strength to the program. Eleven coordinators attended the workshop for food safety offered by BFK. Five coordinators reported knowing about it, however, they did not attend for various reasons (they had no time, someone else from the school had attended previously, or they

felt they were already knowledgeable).

Regarding weaknesses, the most common theme was not having adequate facilities. A few felt that having full kitchens would improve their program significantly. Three coordinators did not have access to sinks, and one did not have access to a fridge which they felt was a large barrier. Others discussed their lack of storage space, wanting a stove and a microwave. Other common challenges were dealing with students' allergies in the schools. Most coordinators did not find it too big of a challenge, unless they were shopping for granola bars and they had a peanut-free school. It was sometimes reported to be a challenge to find products at a reasonable cost that meet the needs of those with allergies. Another barrier mentioned was trying to keep the program environmentally friendly.

The one thing I don't like for safety issues was going for disposables, and environmentally I am not thrilled with that idea so we're still debating how we can address this. Um and it might mean that we're purchasing [of a certain brand of] dishes that can go through our commercial dishwasher. That's something that we're still uh refocus our efforts on. (Public high school coordinator)

Even though adequate facilities represented a challenge to some, as discussed above, the issue also represented an opportunity. When asked if they could change anything in their program, some coordinators spoke about having a place to serve food, and a place where students could sit down and eat. One coordinator explained:

[Facilities] have been a problem... Obviously. But our space is limited, and when I first took over it was in a classroom and ... we had the fridge in there and the kids would come and it was great. Then another teacher [took that] room and she found she wasn't comfortable with having it there, it was too messy, blah blah, blah. So then we started to serve the children in the hallway, and I did think about going to the gym but then it's an issue with tables and where are the kids going to sit and the floor, and the custodian at that time was not real enthusiastic about that, so we were serving them out in the hallway here. (Public elementary coordinator)

Common threats discussed by coordinators also included discussions about facilities. In addition, some participants mentioned problems with people taking food out of the fridges, or

people using the fridges for storage when they were not supposed to. Some considered not being able to be environmentally-friendly a threat, e.g., issues related to certain chemical cleaners.

One coordinator summed up these common threats very well:

[The threat is] just the facility again, I think....Sometimes the information is conflicting, like uh you know they want you to cut down on the use of paper products and yet you can't have washable dishes. So you know what I mean that's kind of funny, and if you do have the washable dishes you either have to have industrial dishwasher which is impossible...Or you have to have you know the three compartments with the proper chemicals. Chemicals are another issue in an elementary school. They have to be locked, they have to be in a certain area, and sometimes the custodian will say 'no we can't bring that in'...So those, those things are restricting a bit. (Public Elementary Coordinator).

5.2 G. Component Five: Financial Accountability

Table 5.11: Major Themes Pertaining to Issues of Financial Accountability

Financial Accountability			
Strengths	Weaknesses	Opportunities	Threats
Receive adequate funding (from BFK)	Lack of funds	Increasing amount of fundraising	Funding – threat to sustainability of program
	Filling out paperwork each month for money spent	More funding could help expand programs	No time for coordinators to fundraise
	Keeping track of receipts for paperwork	Find better ways to track foods purchased	Amount of paperwork deters new coordinators to take over program

Every student nutrition program in the region received funding from BFK. Ten coordinators, of the 22 interviewed, reported also getting funding from donations (through parents, teachers, organizations, or community groups) and two schools had the principal help support the program. Eleven of the 22 programs charged students a small fee. These were the top funding sources that supported the programs.

Some of the challenges facing coordinators regarding funding was the amount of time and work it took to fill out funding applications each year, as well as sending in records each month documenting how they were spending the regional program's funding contributions. This job often fell on the coordinators and became an extra burden on top of running the program. Most did not feel that the financial reports were difficult to write up, however, it took extra time that a coordinator might not necessarily have. A public high school coordinator stated:

People want accountability in terms of how are the dollars being spent and I understand that, but all that paper work, filling out a schedule and getting the things bought, going to the grocery store all of those things take extra time.

Others also mentioned difficulties with keeping track of expenses. A few coordinators reported spending money out of their own pockets for the program and then losing the receipts; once a receipt was lost, coordinators could not be reimbursed. They found that trying to keep track of everything became very tedious.

Therefore, one specific opportunity that was suggested to address this was for BFK to distribute credit cards with a designated amount to be used specifically for the program. This would help coordinators track what they spent and perhaps lightened the load of paperwork at the end of each month. One public high school coordinator had actually been using a credit card and explains:

Now the district school board is allowing us to have a credit card for a certain amount each month based on our school funds. So now I just give the credit card and it's so much easier...I have been pushing for that since I started organizing this program because I felt that if I could improve one area that would be it. Because it is so much easier...to give the credit card, get the receipt and not have to worry about losing it.

Other general opportunities discussed by interview participants included: getting more funding either to expand the program or to be able to hire and pay for a nutrition coordinator, and

trying to get more funds from the school rather than relying specifically on BFK. Some coordinators discussed fundraising more within the community to both heighten awareness of the program and slowly eliminate the need for funding from BFK. One coordinator felt that if they put in a few extra hours each week specifically on fundraising, they would no longer need to depend on BFK. This coordinator from a public middle school stated:

I would like to see BFK hold onto more of that money and expand their own programming to other schools and other places rather than us taking \$4000 [from them] and serving the kids bacon and eggs every day. I think that would be kind of a vision.

Most other coordinators, however, did not feel that they could sustain the program only through fundraising. In fact, almost every coordinator felt that funding was a major threat for their program. When asked if they were at all worried about the sustainability of their program, seventeen of 22 coordinators responded that they had ‘funding’ concerns.

I worry a little bit about the economy being what it is, but we have got a very nice um donation from the boys and girls club... which just makes life so much easier. The truth is if that funding dried up, if some of the people that fund us right now decided that they could no longer fund, then the program would not run.

Every program’s primary source of funding was BFK, so if the Ministry were to stop funding BFK in future, the money given to each individual program would significantly decrease and programs would be in trouble. If government and Ministry funding stopped, coordinators would have to fundraise, and most did not feel that they had the time. Alternatively, they felt that they would have to ask students and parents to pay for breakfast, which would significantly decrease program accessibility and therefore increased stigma. Another coordinator spoke about his concerns with the government funding these programs:

I am worried about the funding. I mean things change all the time and the government may cut something in one area, and I don’t know whether BFK gets guaranteed money every year... I worry about that because, ultimately I don’t know if the

government can really put a face on every individual child that may suffer because of it. And that's ridiculous. It drives me crazy to see um kids going, like we have over 3 million kids or 1.5 million kids that I read in an article going hungry to school every day. I can't understand how that is possible when we have the opportunity and the ability to offer it... I hope the government makes sure that this money is never touched because it is so important. (Public high school)

The only other threats regarding financial accountability reported by coordinators were the amount of paperwork, the lack of time to fill out reports, and difficulties with fundraising as well as keeping track of expenses.

5.2 H. Component Seven: Evaluation

Table 5.12: Major Themes Pertaining to Issues of Evaluation

Evaluation			
Strengths	Weaknesses	Opportunities	Threats
Have had health inspector come to visit program	Little knowledge of other programs	Learn more about how others run their program	

Evaluation was one component that coordinators did not mention very often. Two coordinators explained that they informally and consistently evaluated their program, making needed changes throughout the year. One coordinator explained, “like I said, I think we do a lot of that informally when [three of us] sit down and we say what is working, what isn't working. Or [we bring it up] at a staff meeting”. Four of the interviewed program coordinators reported having a health inspector come in to make sure they were abiding by standards. Other coordinators did not mention having any sort of inspections done.

Another aspect of evaluation was comparing their program to other existing programs in neighbouring schools to get ideas and find ways to improve. However, the majority of program

coordinators were neither aware of other programs in the area, nor how these nutrition programs were run. A couple of participants mentioned getting advice from other coordinators when starting up their program. Also, a few who heard about other programs reported being surprised at what other schools offered. One coordinator noted:

As far as the other programs are concerned I have only known one other colleague that runs a breakfast program in another school. And it's very difficult um to get to know staff with the exception of doing workshops. And most workshops we do ... strictly revolves around alternative programming and things like that, rather than going out and discussing um nutrition programs... So it's very seldom that I actually run into another teacher that you know we have that in common. And I mean, let's face it I don't go around workshops saying I run a breakfast program. Anyone else run a breakfast program? Oh, let's sit together and talk, right? Um that doesn't happen, not with me. (Public middle school coordinator)

5.2 I. Component Eight: Student Involvement & Outcomes

Table 5.13: Major Themes Pertaining to Issues of Student Involvement and Outcomes

Student Involvement & Outcomes			
Strengths	Weaknesses	Opportunities	Threats
Students improve academically, socially, behaviourally	Not enough student involvement	More student involvement	Students take advantage of program
Teaches students social skills		Make program student-run	Students disrespect volunteers/coordinators
Teaches students ownership, responsibility & accountability			Theft
Gives students a positive relationship with an adult figure/role model			
Students involved in program (helping, cooking, cleaning)			

While ‘student involvement and outcomes’ was not an identified component of the OCNPEP, many coordinators discussed that nutrition programs affected or involved students. Many coordinators reported anecdotally that they saw the benefits of these programs on children’s academic and social development. A few felt that the programs taught students social skills. Five coordinators felt that the program allowed students to manage better in school generally. Coordinators reported hearing feedback from teachers in the school about the effects of the program on students. For instance, children were more engaged (reported by four), they were more ready to learn (reported by five), they had energy and improved behaviour (reported by five), and they were not late as often (reported by two). One coordinator who is a high school teacher in a public school stated:

We know how important nutrition is for students and how it correlates directly with their behaviour. Kids that are hungry don’t learn. They don’t learn, they are grumpy, and moody. My kids in my classroom, I push them to have a breakfast everyday and I see the difference in their behaviour and how much they are willing to do on a daily basis with me and the tasks that I give them in the class. And it’s really important these little things that people don’t really pay attention to...there should be more awareness in that.

Another common theme amongst the coordinators was a desire to teach students responsibility, accountability, and ownership. Coordinators wanted to make sure students took responsibility for cleaning up after themselves, and to know it was not like a restaurant; they had to stack chairs and put their dishes away. Even asking students to donate some change to use the program, gave them a little bit of ownership. Having students cooking meals also gave them that sense of ownership. In addition, students were expected to make it to class on time. On the other side, however, some coordinators talked about not wanting to give students a free ride either; they want the students to try and bring in healthy food and snacks for themselves and not just

expect that someone would feed them every day. They felt that students need to account for themselves to a certain degree. Two coordinators discussed the fact that students needed to demonstrate their responsibility to their community partners in the program.

There's a lot of businesses out there that I would like to see them being like a sponsor and being recognized as a sponsor so that they see the impact that they are having on the community you know in a positive manner. And to have the kids see how much they are being supported by their community. I think needs to be a change in attitude of the students towards their community the responsibility of um, taking some initiative to help others when others have helped them. There isn't that holding of hands at this point that I think we really need to take part because of this particular area.

Other coordinators talked about teaching students respect as well. Some reported students trying to take advantage of the program. Students know that they are not allowed to take three juices for example. They need to respect the teachers who are volunteering and the other students who are all there for a healthy breakfast, lunch, or snack. Some coordinators reported students being rude and disrespectful to them or to other teachers volunteering, which was considered a threat to the program.

One suggested way to teach responsibility and accountability to the students was to increase their involvement. Seven coordinators discussed increasing student involvement and participation in the program. A few were even considering making it more student-run in general, where students would prepare the meals, or be involved in set-up. For example, one public high school coordinator would have liked to:

...investigat[e] student leadership opportunities to try to incorporate it within the school and other courses. So I see it expanding drastically and eventually what I see is basically having the students run it through the cafeteria.

Student participation and involvement was considered a strength, a weakness, an opportunity and a threat amongst the interviewed coordinators. It seemed like an increasing number of programs

will be involving students in the implementation of their programs.

5.2 J. Component Nine: Program Support

Table 5.14: Major Themes Pertaining to Issues of Program Support

Program Support			
Strengths	Weaknesses	Opportunities	Threats
Programs receive sufficient support in terms of funding, equipment, in-kind donations & training	Programs not receiving sufficient support in terms of funding, equipment, in-kind donations & training	New ideas in terms of support and ways to receive this support	Afraid of inspections and evaluations
Availability of BFK director	Taking time out to attend training sessions		Afraid of programs getting shut down
Various strengths reported relating to different types of training	Various weaknesses reported relating to different types of training		

Generally, coordinators reported during interviews that student nutrition programs received support in four different ways: funding, equipment, partnerships, and in-kind donations. All programs also received the support of the BFK director in relation to assistance with funding, application preparation, provision of food and ordering services, food safety training courses, and general advice. Ten programs reported receiving enough support, whether it be funding, volunteers, partnerships, food safety training, or menu planning assistance. A few explained that they would need more support if they wanted to expand the program. Other programs felt that they had enough support in one area, but not in another; for example, some had enough volunteer support, but not enough monetary support. As mentioned in the food safety section, eleven coordinators attended food safety workshops run by BFK, and three reported receiving some sort

of menu planning support.

For those who reported wanting more support, a variety of needs were described. The majority of coordinators wanted help with which foods to buy (n=6); they wanted new ideas for foods to put into bins, more menu ideas and suggestions from a dietitian regarding healthy foods to buy and serve. One coordinator specifically indicated wanted assistance in finding a delivery service that would work for the school. Regarding food safety, a few wanted more support to know if they were meeting the standards. Two coordinators reported wanting their program to be reviewed to ensure they were running the program correctly. Another need mentioned by two coordinators was to have some support for students to teach them proper food safety skills.

In the interview, five coordinators reported not wanting any more support regarding food safety. One reason for not wanting support included coordinators already being very comfortable with food safety. If the coordinator was knowledgeable in food safety to begin with, they felt no need to attend training sessions. They explained that food safety standards hardly ever change, so as long as they had been to one training session at some point, that was enough. Another reason for not wanting more support was that their program was small and offered very basic, pre-packaged foods. One coordinator when asked if they would want more safety training in the future responded, “Not unless the program grew. I mean to put granola bars out and juice boxes, I don’t think I need to go to food safety training. If we were providing meals absolutely” (Alternative school coordinator).

The advisory committee on this study identified various ways of providing training to coordinators including: smaller workshop training (on-site training with programs’ own facilities), annual workshop training (off-site training where all coordinators would attend at

once), e-based training (online modules that coordinators/volunteers could complete at their own leisure), and sending out list-serves (sending paper documents to coordinators). The two types of support that the interviewed coordinators identified to be most useful were the locally based- (smaller workshop) training for volunteers (n=14) as well as the e-based training (n=10).

The main reason for wanting smaller, on-site workshop training was convenience. Volunteers and coordinators often did not have the time or the means to get somewhere far off-site. Having someone coming into the school for one session at the end of the school day would be simpler for both coordinators and teachers. There would be a greater chance that all volunteers would attend if the session was held at the school. Another reason coordinators would prefer on-site training, is that each school was different in terms of what foods they offered and what facilities they had. One coordinator spoke about the benefits of on-site training rather than something online:

Overall, I would say site specific [would be most useful] just because every site is a little bit different and to read or look a document or look at a website um, you know those website always have those FAQs and when I look for that FAQ that I have its never there right? So I think the site specific would be very very helpful. (Public middle school coordinator)

One barrier that was mentioned regarding site-specific training, however, was worrying that training may deter people from volunteering. If someone were to come in and give numerous instructions on how to prepare, serve, and clean up, some volunteers could get turned off volunteering and could possibly not be willing to help out anymore. Another barrier mentioned by coordinators was that teachers had so much going on, that they might not be willing to stay after school to attend training.

Regarding e-based training, ten of the 22 coordinators felt that this type of training would be beneficial to them. This was considered useful for those who did not have access to a vehicle

to get to other training, and for teachers who had such busy schedules. With e-based training, coordinators said that teachers could do the training on their own time which may be easier for them. One public middle school coordinator stated:

I like the e base one, I think that if they were to do training within the school, or outside of the school, I think the biggest concern would be the time and the demand it would put on the people who are volunteering their time. An e based thing would be something I would say, could you please do this? My guess is there would be a better response than saying you know you have to be at school, after school for a certain amount of time.

Of the different types of training, e-based modules seemed to be the most accessible for coordinators. One coordinator thought that in addition to learning modules, having online training videos available would be useful.

However, not all coordinators were fond of the e-based training. One of the barriers mentioned by a few coordinators with schools in diverse communities was that modules would not work for non-English speaking volunteers. As well, many families do not have computer access at home, so it would be hard to request that parents, for example, would complete these modules when they were not computer-literate, or do not have access to a computer. Another potential issue with online training, was that some teachers were not comfortable on computers. For instance, one coordinator in a public elementary school explained: “It would probably work for [the younger teachers], for us oldies it’s like, it’s not my thing, I’d rather have the hard copy and read it, or have somebody come in...?” Again, other common barriers that applied to the e-based training, was that teachers did not have time to go through various modules. Others felt that it may not be relevant to all programs, since all programs needs are different.

Not as many coordinators were keen on annual workshop training, mainly because they did not want to take a lot of time out for it. However, one benefit that was mentioned for this type of training was that it is less intimidating because it is not an inspection. A Catholic

elementary school coordinator explained:

If you offered a kind of an in service, if it was off site and we just send [the volunteers] and you have someone present it; this is how we prepared the food and this is what we did, and this what we did and this is what we did, as opposed to this is what you should do, I think people are a lot more willing to, especially volunteers a lot more willing to buy into it.

Because sites were so different from each other, and they had different needs, different types of volunteers, different facilities, there was not one method of training that would work for everyone. It is challenging to take every program's needs into account. One public middle school coordinator explained that maybe coordinators need multiple kinds of training:

I don't mean to say you know I've got site specific and that's it. Um there's definitely a lot that can be handled through electronics and things like that, especially when you first start. But for some of the more complex questions um you know it would be nice to have that access to a dietary nutritionist or somebody like that and then in addition have a site specific [training]. So I don't think there's a one catch all. You know what are we looking for in terms of support and um health and safety instruction and things like that, there's not one specific answer.

Coordinators were asked if they had any other ideas for support that were not previously mentioned. A wide variety of ideas were discussed. One common idea would be to have an online sharing forum or blog where coordinators could go to a website and post questions and comments. It would create an online support network for coordinators, where they could share ideas and potentially give suggestions to struggling programs. Also, if they had access to a dietitian on the site as well, then they would be able to quickly provide answers to some nutrition-specific questions. Seven coordinators said they would find an online forum such as this to be extremely helpful. Three coordinators reported wanting dietitians to come into the schools. This way they could "visually see how to plan a weekly menu you know to make a variety of meals and keep it balanced with the food guide" (Public high school coordinator). Another idea given by one coordinator, was to have a list of potential partners who may be

willing to help support programs to offer to coordinators who were struggling to find partnerships. One coordinator explained, “it would even be useful like on [the BFK directors] end, if they pre-established some places that, or gave some suggestions on who we can connect with”. Another suggestion made was a way to connect schools together and thereby split large deliveries. This would be most useful to those programs that were too small to use a delivery service. Another means of support that some coordinators suggested was to have someone, for example a dietitian, help coordinators by teaching them how to shop better. For instance, they may have suggestions for certain breakfast bars that are still cheap but a little bit healthier, rather than leaving that up to the coordinator to figure out on their own. One final suggestion that was made was to have an expedient police check process specifically for nutrition program volunteers to eliminate a major barrier.

Coordinators who participated in interviews were asked one final question related to a disconnect which was found in the analysis of the survey results; when survey participants were asked if they had any support from public health or BFK in terms of training, many coordinators said no. However, when asked if they wanted follow-up for support, many did not want it. Interview participants were asked if they had any insight as to why coordinators would not want such support when they had had none. A few participants felt that coordinators may not have understood the question, or may have answered differently if “support” was better defined in the survey. Some coordinators felt that they did not know what support they needed. Others explained that they could find support if they looked for it, and that it was available, but people just chose not to access it. The most common explanation regarding the disconnect, was that coordinators felt that support would lead to inspections. Six people worried that they may not be

following all guidelines, and they were afraid of the program being shut down because of a technicality. One coordinator commented regarding this disconnect:

I would think that because we are in a public school and we're in a public environment I mean you are not going to find a sterile environment. Where, I think with [the Health Department] coming in and doing inspections you would always be worried about them coming in and finding something wrong. You do not want them shutting down your program...So I think with them maybe their standards and guidelines are a little bit more strict...than we can actually offer here....Like they say the kids have to come in and wash their hands; I can't have 50 kids lined up at that sink to wash their hands, you know how kids are and then be able to sit and eat in 20 minutes. It is just not realistic...I mean come on they are kids they are out there eating dirt and sand... it's not a hospital, it is a public school. And in public school, you get germs, you get kids sneezing you get a sick kid, you know. We end up with this stuff all the time so I think that's why people are leery on having them come in because it's too much of a worry. (Public elementary school coordinator)

Another worry was that if public health were to come in, many coordinators were afraid that they would make changes to their program and have people telling them what to do. Other coordinators thought that maybe coordinators who had started a new program, or had a program that was really struggling would need the support. Or perhaps support would be needed if there was a large staff turnover. One common thought was 'if it ain't broke, don't fix it'. One public middle school coordinator explained:

... I don't know how we would change ours really to make it run more efficiently, The kids are in and out, I think the cost is reasonable, I think the food that we offer is reasonable with respect to the cost that we have to pay to purchase it...and how easy it is to make [the food]. So, I can't see where added support would be beneficial to our program.

Also, some coordinators felt that if their program had been running this long without support, why would they want it now? Other suggested reasons were that coordinators maybe already had someone come in to inspect the program, or attended training. These were the reasons coordinators gave for not wanting support from an outside source.

6.0 Discussion

This is one of the first studies to evaluate school nutrition programs as offered in a large, culturally diverse region of Ontario. It is also one of the first to use multi-methods including using both an online survey, as well as coordinator interviews. The qualitative interviews both corroborated the results from the survey, as well as helped to explain some of the inconsistent and puzzling survey results. Twenty-two interviews were sufficient to reach saturation on the overall themes (e.g., insufficient funding, challenges with volunteers, and difficulty establishing partnerships) and allowed for an exploration of specific challenges faced by individual schools. The coding was reviewed by a peer with qualitative analysis expertise. Coding on a number of selected transcripts was examined as well as the overall coding structure. Reviews were conducted at the beginning, middle and at completion of the analysis. General agreement was obtained and consensus was reached on items of disagreement.

Overall, results showed that student nutrition programs in the region varied enormously. They differed in what they offered, how they offered it and what their needs were. In addition, programs also varied with respect to their strengths, weaknesses, opportunities, and threats. In fact, one program's strength was at times another program's weakness.

Each program component, as outlined by the Ontario Child Nutrition Program Evaluation Project (OCNPEP), will be discussed with the addition of two other concepts that are recommended for expansion in the OCNPEP's component framework (Evers & Russell, 2005). These are *student engagement* and *program support*. The new component -*student engagement* - will be discussed in the section that discusses the results of the SWOT analysis, whereas the *program support* section will be discussed in relation to the research question that was related to public health unit involvement.

6.1 Access & Participation

Coordinators who offered universal programs felt that their greatest strength was that they reached a large number of students and that it was openly accessible. These same coordinators felt that their program also reached the students who would most benefit from the program (i.e., low income, single-parent families, or students with behavioural problems). This is supported by research suggesting that the routine-nature and universality of programs increases participation (Reddan, Wahlstrom, & Reicks, 2002; Evers & Russell, 2005).

While the literature supports the implementation of universally free programs, some schools in this study charged a small fee/donation; this was identified as a possible threat which could create a negative stigma where some students might not be able to afford the cost. While one report indicated that programs in Canada were all universal (United Way of Guelph & Wellington, 2007), a few programs in this region were strictly based on referral, and targeted at-risk populations only. These programs did report a negative stigma that was associated with them. The threat of stigma has been identified in other studies where programs were not universal (Reddan et al., 2002; Crepsinek, Singh, Bernstein, & McLaughlin, 2006; Bernstein, McLaughlin, Crepinsek, & Daft, 2004). Some coordinators suggested ways to eliminate this threat. For instance, they described using a card program, which acts like a student meal card, that can be purchased by those who can afford it, or provided at no cost to those in need. If coordinators or teachers can discretely distribute these cards to those in need, it can help avoid stigmatization. Other coordinators considered expanding the program to the whole school to increase access, however, a barrier to this was insufficient funding.

The recommendation by the OCNPEP was that coordinators needed to offer their program three to five days per week (Evers & Russell, 2005). Only two of the region's coordinators offered meals less than three days per week, while many coordinators, who offered the program less than five days a week saw this as an area for improvement.

Survey data showed that the majority of students tended to eat in the classroom. This was suggested in the literature as a good location to increase participation (Bernstein, 2004). Despite this, some coordinators had trouble with teachers who were not supportive of this approach. Teachers felt that eating in the classroom distracted students from learning and they left a mess. This finding is also supported by Bernstein and colleagues (2004). Based on the coordinators' experiences, having a designated room for the program, where teachers can serve and students can eat the meal is important.

Literature on school meals suggested that programs can also have social benefits for students (American Dietetic Association, 2006; Veugelers & Fitzgerald, 2005). The American Dietetic Association (2006) specifically discussed how the school food environment can impact students' eating habits. Similarly, many of the region's coordinators felt very strongly about the social aspect of the program. Providing a social opportunity for students was a major strength reported by many coordinators. Coordinators felt that many students who attended the program came not for the food specifically, but because they wanted to socialize with friends. Programs that were more grab-and-go based, discussed their visions of making their program more formal. Some coordinators wanted teachers and principals eating at the program along with students to create a welcoming school environment and therefore eliminating any additional stigma related to program use. This factor was not taken into account in the OCNPEP evaluation (Evers & Russell, 2005). As noted above, research suggests that this approach should be encouraged.

The barriers to program access and participation that were experienced by the interview participants were also identified in the literature. For instance, coordinators reported struggling with the program hours. Some felt that because the hours in which the programs could be run were so limited (and often bus schedules clashed with program timing), there were often groups of students whom the program did not reach. Reddan (2004) also discussed the issue of bus schedules conflicting with nutrition program hours. To resolve this issue, many coordinators reported setting food aside for any student arriving late. Coordinators still struggled with timing of the program, since it had to end before the start of the first

class. This was a common problem for this Region's coordinators, since a majority of them were offering hot and cold foods, rather than bag-to-go or food baskets.

Another recommendation for programs was to have language services available to allow for ethnic diversity (Evers & Russell, 2005). While the language barrier was identified as a challenge by a few coordinators, more of them struggled to include ethnically diverse foods. Coordinators felt this could help increase participation of students from different ethnic backgrounds. This was a struggle for a few programs, particularly where a large majority of the school was composed of students from different ethnic minorities. Some studies suggest that breakfast skipping is higher among minority and ethnic groups (Rampersaud, Pereira, Girard, Adams, & Metz, 2005). Because this Region's population is very ethnically diverse, the language services recommendation may help to increase participation and welcome more parent volunteers.

6.2 Parental Involvement/Consent/Partnership & Collaboration

Literature suggests the importance of parents being involved in the planning and implementation of nutrition programs (Matthys, De Henauw, Bellemans, De Maeyer, & De Backer, 2007; Evers & Russell, 2005). In this study, however, survey data showed that only a small percentage of coordinators reported parents helping to plan (9.7%) and deliver (17.7%) programs. Reasons for not participating included: language barriers for ESL families, not having time in the morning, or the burden of having to complete a police check before becoming a volunteer. While it is recommended to include parents in the program, many times coordinators did not want parents involved. This finding was more apparent in high schools. While some programs reported wanting more parental involvement, the need for it seemed to be dependent on the program; that is, if a coordinator had sufficient volunteers, or they had a very basic program with limited preparation and implementation, parental involvement was deemed not necessary.

One area that coordinators reported as a strength, weakness, *and* opportunity was building community partnerships. While a few coordinators had strong, reliable partnerships in place, the majority

of coordinators did not. These coordinators had major difficulties finding and maintaining community partnerships. The recommendation in the OCNPEP was to create program committees that would help to establish those community collaborations (Evers & Russell, 2005). Not one program in the region reported having such a committee. In fact, the coordinators most often reported searching for these partnerships themselves. One coordinator suggested that it would be helpful to receive a list of potential program supporters/partners that had previously helped other programs. Many coordinators did not know the right people to ask, or did not have the time to search for potential partners. Support from professionals who have community development skills could be a significant help to coordinators in building such partnerships with community members. Public health nurses have these skills and could be an important resource to coordinators.

6.3 Inclusive & Efficient Program Management

Almost all programs in the region were managed by *volunteer* coordinators, many of whom were teachers in the schools. These coordinators took on a variety of roles, including: completing paperwork and funding applications, picking up or ordering food, preparing and serving food, managing volunteer schedules, as well as fundraising and forming partnerships. The workload for coordinators was tremendous, and many reported struggling with it. The only recommendation given by the OCNPEP (Evers & Russell, 2005) was that programs should have qualified coordinators who are compensated, and that more government funding should be given to adequately compensate coordinators for their work. Of those who were interviewed, only one coordinator had a paid position; all other coordinators were volunteers. The program that was able to fund a nutrition coordinator, described their program as high-functioning, due to the fact that they were able to pay for such assistance. This shows that adequate funding to have a paid coordinator may have significant program benefits.

Survey data showed that 66.7% of coordinators had adequate volunteer support to meet their needs. This was also supported by the interview data, where coordinators mentioned that a common strength was having reliable volunteer support. This was especially important for those programs that

served more complex meals. Again, both survey and interview data showed that the most common volunteers were teachers in the school. Volunteers were extremely important for coordinators to help “lighten the workload”. Even though teachers were the main volunteers reported, many coordinators still had difficulties getting help or support from teachers in the school. They explained how teachers had no time in the morning and had other commitments (sports teams, other clubs). This often resulted in having unreliable volunteers and also conflicts with administration. When asked about future opportunities, many program coordinators wanted more support from staff. These challenges indicate that the coordination of volunteers could be a useful topic for professional development aimed at coordinators.

One common difficulty for coordinators was getting food for the program. Some were fortunate and had grocery stores nearby, or had a large enough program/school to make use of a delivery service. For smaller programs or programs located in more remote areas, this was a struggle. All programs used the Director of the Region’s programs as a resource for help with program management, or to provide food that the director had available for coordinators to pick up. Because the Region is widely spread out geographically, many coordinators could not take advantage of this resource; they just did not have the time to pick up these food supplies. Many coordinators felt that having a delivery service would help decrease their workload. However, most delivery services required that coordinators buy a minimal amount. This was not feasible if the program was too small and therefore coordinators could not buy large quantities at once. These issues presented major challenges for program coordinators. Many of these challenges have not been described in the current literature. One possible solution would be to obtain funding to hire a central service which could deliver food to multiple programs at one time, thereby eliminating the minimum limits on foods that coordinators could order. This would be very beneficial to smaller programs, and in particular, for alternative schools. Alternative school settings are not able to predict the number of students that they might have attending from week-to-week because of the high student turnover.

6.4 Food Quality & Education

Programs served a wide variety of foods. Survey data showed that programs served cold and hot foods more often than food-to-go or food baskets. Interviewees explained that programs that served hot food tended to serve it once or twice a week because it was more complex and took more volunteers. Coordinators reported using nutrition guidelines given by BFK when shopping for food. However, many coordinators felt that using their own judgements in terms of 'healthy foods' was sufficient. Rather than shopping by guidelines, they felt it was more important to look at cost and foods of interest to students. A future area for research would be to examine the choices that coordinators make when using their own judgement.

In terms of food groups, the recommendations for nutrition program meals are to serve a minimum of three food groups (Evers & Russell, 2005). According to survey results, most programs served vegetables, fruits, grains, and milk and alternatives on a regular basis, which abides by the guidelines (Evers & Russell, 2005). Mixed results were found in terms of whether programs offered oils, fats and 'other foods'. These survey questions had higher non-response rates, which may indicate that coordinators were unsure what foods fell under these categories. These food groups, therefore, may be under-reported. The types of foods offered were also highly dependent on the facilities available. Many who did not have access to a refrigerator had difficulty serving fruits, vegetables, and milk and alternatives; they were then more likely to serve less healthy pre-packaged foods. More funding for programs that need basic facilities may eliminate some of these issues and allow programs to serve fresh, healthier foods. This also might benefit coordinators who want to expand their programs to offer a wider variety of foods (ie., including hot foods).

Another recommendation by the OCNPEP (Evers & Russell, 2005) was that programs have access to a registered dietitian and public health inspector to ensure that the programs' menus met guidelines. According to survey results, the majority of coordinators did not have involvement from dietitians or inspectors. Only a few coordinators who participated in interviews mentioned having their

site inspected. Other public health staff such as nurses did, however, give some menu planning advice. Some coordinators did report wanting help with menu ideas, however most coordinators reported not wanting any dietitian or health inspector support. This will be discussed further in the section on ‘program support’.

Food variety was reported by coordinators as a strength, weakness, opportunity and threat. Many factors limited what they served. For instance, strict regulations provided challenges for coordinators, since most foods that follow guidelines and are affordable are foods that students tend not to eat. Some coordinators tried to find ways around the rules, such as mixing a healthier cereal with ones that do not necessarily meet the guidelines (Evers & Russell, 2005). Therefore, one of the major challenges for coordinators was finding foods that met the guidelines, appealed to students, and fit in their budget. A possible way to address this issue would be to have lists of recommended pre-packaged foods that meet guidelines and are reasonably priced. Also, coordinators struggled to read food labels when purchasing foods, so providing some general education on shopping techniques and reading food labels could be very beneficial. This is a topic for professional development where dietitians or public health nurses might be able to provide assistance.

Another challenge was addressing special dietary issues, such as allergies, and cultural and religious dietary restrictions (e.g., kosher foods). Some cultures may also have cultural norms that impact program use (e.g., cultures which do not accept charity). In addition, many schools have to be cautious regarding food allergies. Coordinators found it to be a challenge to meet the needs of everyone in the school. While literature discusses the importance of language services, they do not address the issue of including a variety of ethnic foods. They also do not explicitly discuss allergy restrictions. Therefore, public health nurse and dietitian involvement in programs may help coordinators deal with these challenges.

Lastly, nutrition education was a theme identified by the OCNPEP that affects the quality of a program (Evers & Russell, 2005). According to the survey, only 28.9% of program coordinators included an education component in their program. For programs that had an education component, it tended to vary greatly (whether formal or informal education was offered). One example of informal education that coordinators mentioned and was also identified by the OPHA review (Ontario Public Health Association Food Security Workgroup, 2004), was having school staff model healthy eating habits. Many of the programs that did include a formal component did so through the curriculum, which was identified by the OPHA review as one of the best methods for nutrition education. In terms of including nutrition education in the program itself and to take the burden off coordinators, public health staff (PHNs or dietitians) could perhaps provide materials which coordinators could use (such as posters, or pamphlets on healthy eating). One school reported having an outside program coming into the school which provided education on healthy eating and physical activity. These types of programs could also help to eliminate the burden from program coordinators while providing nutrition education for students. Literature also suggests that students learn through modeling of parents and teachers (Ontario Public Health Association Food Security Workgroup, 2004), which was also mentioned by a few coordinators.

6.5 Food Safety

A common strength reported by coordinators was that their program provided a positive atmosphere where students could feel safe; this was also the first recommendation for food safety by the OCNPEP (Evers & Russell, 2005). Many coordinators who reported this as a strength, were also the coordinators who felt strongly about the social benefits of the program.

In addition, a few coordinators also felt that having trained staff was a benefit to their program; this was identified in the literature as an important aspect to program implementation to ensure food safety (Veugeliers et al., 2005, Evers & Russell, 2005; Ontario Public Health Association Food Security Workgroup, 2004). Eleven coordinators reported attending a food safety training workshop offered by BFK; however, some coordinators and most program volunteers had not attended this workshop. Fourteen

survey respondents were interested in food safety training. A recommendation would be to provide food safety training to program coordinators and their volunteers that is easily accessible and offered multiple times a year. More details regarding training will be discussed further in the ‘program support’ section.

One issue that was not covered in the literature but was mentioned by coordinators in the interviews, was environmental concerns. One specific example reported by a coordinator, was the use of certain chemical cleaners that were required by safety guidelines, but were not allowed in the school because of certain chemical components (ie., bleach). Also, coordinators without proper cleaning facilities (no sinks, or industrial dishwashers) were only able use disposable dishes, otherwise they would not be following guidelines. This resulted in more environmental waste. Perhaps, these environmental issues should be covered in food safety training sessions in order to help coordinators who struggle with this.

6.6 Financial Accountability

Sixty-one percent of program coordinators who were surveyed (n=36 of 62) felt that they had adequate funding to meet their programs’ needs. However, the most common weakness identified in the interviews in terms of program sustainability, was funding. The major source of funding for all programs (identified both in the survey and interviews) was BFK. Community donations and major sponsors were not considered as a source of funding by coordinators, largely because of lack of time and a willingness to fundraise for the program. If programs received more assistance regarding building stronger partnerships, they would be less reliant on BFK for funding. This would also reduce the monthly paperwork that is required by BFK. The extra funding could also be used help coordinators who are interested in expanding their programs, but are unable to do so because of lack of funding.

An issue discussed in both the OPHA (2004) and OCNPEP (2005) reviews, that also affected coordinators was budgeting and accounting. Coordinators struggled to keep track of receipts for the monthly paper work. One recommendation that may eliminate this problem (as suggested by one coordinator), would be to provide coordinators with a nutrition-program-specific credit card, so they can

easily keep track of foods purchased. This would also eliminate much of the hassle regarding paperwork each month.

6.7 Evaluation

This study is the first formal evaluation that has been done on this Region's nutrition programs. A small number of programs have had a health inspector visit their program to ensure that they met all guidelines. Interview results showed that many coordinators were not aware of other programs in the region or how they were run. It would be helpful to find ways to connect program coordinators, so they could learn from one another's programs successes and struggles, and therefore, informally evaluate their programs.

6.8 Student Involvement & Outcomes

“Student involvement and outcomes” is a suggested new component which was not part of the OCNPEP evaluation or the OPHA review (Ontario Public Health Association Food Security Workgroup, 2004; Evers & Russell, 2005); however, this theme appeared throughout this research study. Many coordinators reported seeing general benefits of the program on students; for instance, teachers often reported back to coordinators seeing improvements academically, behaviourally and socially in students who attended the program. The coordinators in the Region also discussed getting students more involved in program planning and implementation. In fact, 29.8% of coordinators reported students as a major source of volunteer support. According to program coordinators, students who were involved or who attended programs were being taught accountability, ownership and responsibility. This could have major benefits to the students themselves. More programs are becoming student-run, which eliminates the issue of not having sufficient volunteers. Increasing student involvement (in shopping, cooking, and delivering the program) may have tremendous benefits to both coordinators and students. It could reduce some of the burden placed on the coordinator, and at the same time allow students to learn life-skills.

6.9 Program Support

While some aspects of program support are already incorporated into components discussed above, this specific study had a special focus on how public health units could support programs to improve their functioning. There seemed to be a major disconnect in terms of what support programs wanted. Specifically, when program coordinators were asked in the survey whether they had support from public health (PHNs, dietitians, safety inspectors), the majority said they did not have support. Then, when asked what support they would want (general public health involvement, menu planning & nutrition support, food safety training), the majority of program coordinators reported not wanting more support, or already having sufficient support. Similarly, when asked about what methods of menu planning or food safety training they would prefer (one-on-one, small, large group training), the majority of coordinators again reported not wanting support.

When these findings were compared across settings, middle schools were more likely to report not wanting any support. Perhaps this is because they served a smaller population (fewer grades) and they had fewer students to feed in general. Another finding was that, schools that served more complex foods (hot and cold foods) tended to want more support, compared to programs that served bag-to-go foods or all day food baskets.

Coordinators who participated in the interviews were then asked to further explain the above disconnect, or to provide more detail as to why they would not want support. Interviewees were able to provide much more insight. Many respondents were unsure about how health units could be involved and there was also some hesitancy about their 'inspection' role. Some coordinators were confused about the definition of 'support'. When general support was offered to coordinators, they were uncertain what that 'support' may involve and therefore they could have been more hesitant to accept help. The most specific question regarding support, asked 'what method of support coordinators would prefer'. Although the majority of coordinators still responded not wanting support, there were some coordinators that did report wanting one-on-one consultation, or small group training for food and menu planning.

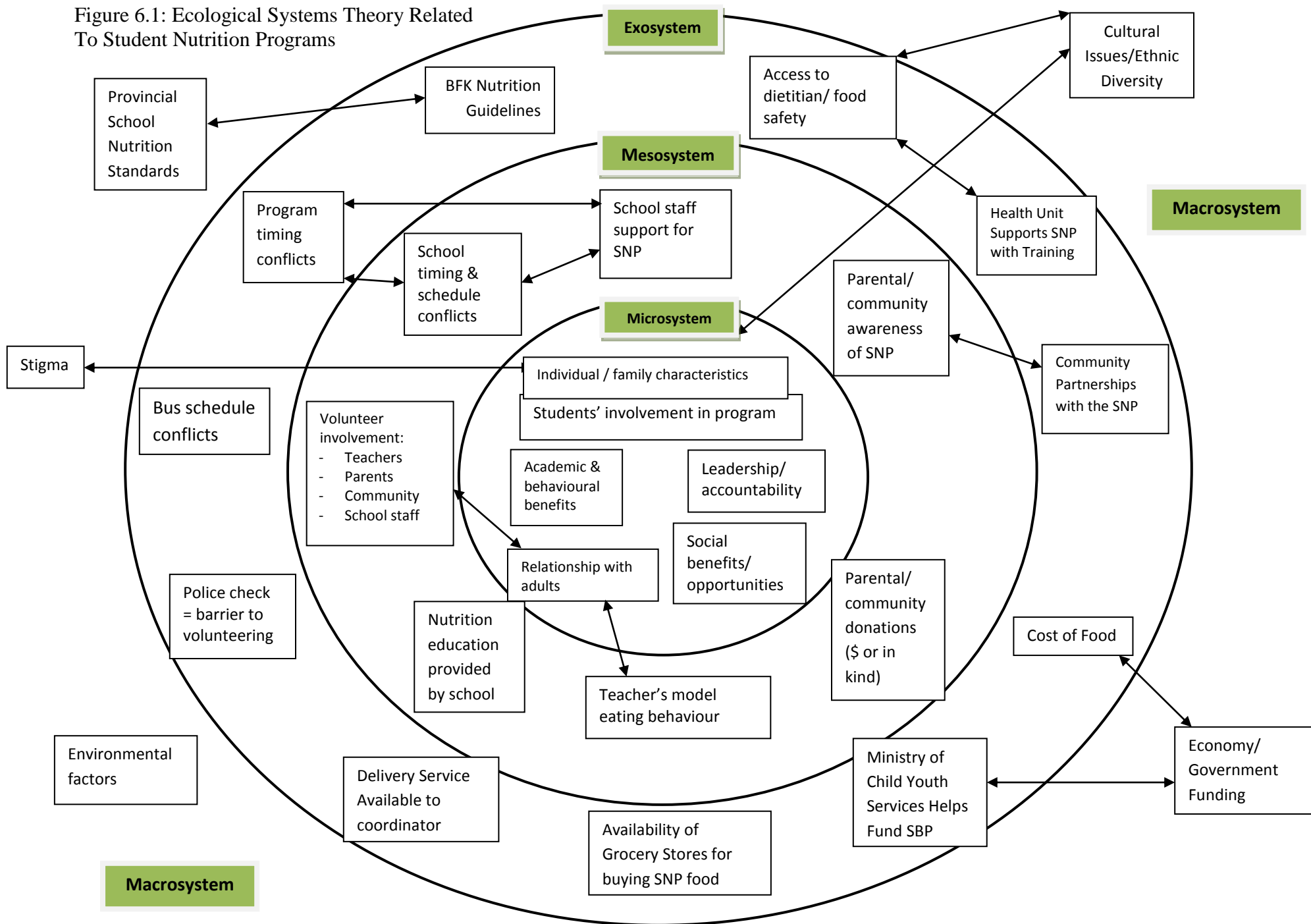
Other coordinators were hesitant to accept support because they feared inspections. Coordinators worried that if health unit staff came into the program and found some aspects that did not necessarily abide by guidelines given to them by the director of the program, they might request that coordinators make unrealistic changes to the program, or they might even shut the programs down. Some food safety and nutrition guidelines, as mentioned in the above components, were viewed as often not realistic for programs. Health unit staff members need to be aware of this and work with coordinators to use their facility and resources to the best of their ability using a very supportive approach. Coordinators need to be reassured that health unit support does not necessarily mean ‘inspection’.

There is no literature describing the most effective methods for offering nutrition program support. The four potential support methods described to coordinators were annual workshop training, smaller workshop training, e-based training, and list serves. Interviews showed that each location had various reasons for wanting and not wanting certain types of support. For instance, some schools in very diverse communities felt that e-based training would not be effective because their volunteer population was ESL or did not have computer access. Other coordinators did not find it convenient to drive out to a large workshop training session. However, they may also have been hesitant to report wanting smaller on-site training, for fear of inspection. While most coordinators favoured e-based training and smaller on-site training for means of support, every coordinator had a different view of what support they would need and how they could best get it. The method of support that coordinators wanted was dependent on personal preference. Therefore, for effective support, health units may need to tailor support to each specific program, rather than offering it by a single means.

Some new ideas for support were suggested by program coordinators in the interviews. Some more specific suggestions included using online videos for training for food safety, giving coordinators lists of healthy food products (e.g., healthy granola bars) that meet guidelines for healthy foods and that are affordable, or creating/finding an expedient police check process for volunteers working in nutrition programs. One suggested approach that would help provide coordinators with more general support

would be to create an online blog for teachers and health unit staff to share their successes and challenges, discuss ways to overcome barriers, and provide general information (ie. good food options to include in food baskets). Dietitians or food safety inspectors could also have access to the blog to respond to coordinators' more specific questions on menu planning or food safety. Since the interviews showed that the majority of coordinators were not aware how other programs ran, a blog with all coordinators would provide an ideal way to build a network of nutrition program coordinators where they could share ideas. The blog could potentially be hosted by the health unit in order to reach school and community based coordinators.

Figure 6.1: Ecological Systems Theory Related To Student Nutrition Programs



6.10 Theoretical Model & School Nutrition Programs

6.10 A. *Microsystem*

Figure 6.1 depicts the various factors that affect student nutrition programs at all environmental levels as applied to the Ecological Systems Theory (Bronfenbrenner, 1994). In this model, the microsystem represents all factors directly affecting the individual student. One factor in the microsystem is the individual and/or family characteristics. For example, many students from the Region come from lower-income families and cannot afford healthy food options. Because most of the programs are universal, this eliminates the stigma associated with using the program. All students, regardless of background, feel they can use the program. Another factor directly associated with the students is their involvement in the program; some programs have the students shop, cook and serve the food. This direct involvement in the program therefore provides them with leadership opportunities and helps them feel a sense of responsibility and ownership of the program. SNPs can also directly affect individual students by providing them with social opportunities to socialize with peers and teachers. It provides them with opportunities to build relationships with adults, whether it is with the program coordinator, a teacher or principal in the school, or a parent or community volunteer. Not only does the program then provide social benefits, but also academic and behavioural benefits. If students can have access to healthy foods on a daily basis by using the nutrition program, it can directly promote their overall health and well-being.

6.10 B. *Mesosystem*

The mesosystem looks at factors that have a direct influence on the student, however, focuses on relationships among the family, school and community. A critical factor in the mesosystem that supports SNPs is the program volunteers. Many programs have teachers, other

school staff, parents or community members involved in the program as volunteers interacting directly with students. This provides students with a sense of community. Coordinators who have support from many volunteers are often able to offer more complex foods, are able to run the program over longer periods of time and are perhaps more likely to have a successful program. Also, simply having support of the school staff can affect a program's success. If teachers take part by sending students who have not eaten in the morning to the program, or otherwise promote the program to students on a regular basis, it can increase student participation. Also, having teachers and school staff who purposefully model healthy eating will benefit both the student and the program. If teachers are supportive of the program, they may allow students to bring food to class, thereby increasing the amount of time a student is given to eat. Parents have a role as well. Some parents may not bring students to school on time, with the result that their children miss program hours. Parents and community members need to be made aware that SNPs exist. The more awareness, the bigger the benefit. Some parents and/or community organizations can donate money, food, supplies, or facilities which can have a significant positive impact on program resources. Lastly, nutrition education falls under the mesosystem. Teachers are often responsible for providing this education to students either through school curriculum or through the program itself. Often programs send nutrition information home to families as to use as a resource. In summary, the overall success of a program, and the impact of the program on the students themselves, can be linked to the connections that are made between the family, school and community.

6.10 C. Exosystem

The exosystem also has an important influence on student nutrition programs as well. These are factors that are not directly linked to the individual student, but outside factors that

affect how a program coordinator runs the program. One factor in the mesosystem, is program timing (discussed above). This is also affected by the exosystem, for example, when class period schedules or bus schedules clash with the timing of the SNP program, student participation can be affected. Another exosystem factor that affects the number of volunteers in a program is the requirement to undergo a police check before becoming a volunteer. Such time consuming and complicated processes can deter people from volunteering, which puts more pressure on the coordinator. A further exosystem factor in the system involves the partnerships that coordinators build with community groups, stores, and food providers. A program will often be more successful if coordinators develop strong partnerships that provide in-kind or monetary support. When outside partners donate facilities to programs, this can significantly impact what foods SNPs can serve. Other factors affecting accessibility to food, is the proximity of grocery stores and availability of delivery services. It can also greatly benefit coordinators if the stores are willing to partner with the program and provide discounts, or donate food. A coordinator's ability to have access to dietitians, PHNs, or public health inspectors also falls within the exosystem umbrella. Having health unit support can significantly benefit coordinators by supporting them to run safe, healthy programs, such as assisting them in identifying and finding healthy food options.

6.10 D. Macrosystem

Not only is health unit staff support beneficial, but sustainable funding through the Ministry is vital to keep SNP programs alive. This latter factor of government funding represents the principal element of the macrosystem. In the study, many coordinators expressed their worry regarding the current economic crisis. Without stable government funding, programs could not be sustained. Government funding was every program's primary monetary source; fundraising

and donations would not be enough to sustain these programs according to study participants. Another macro factor involving student nutrition programs is culture. A large majority of the Region is ethnically and culturally diverse; therefore, it is important for coordinators to meet the needs of these groups in order to maximize program participation and promote parent and community volunteerism. Another macrosystem factor is the establishment of nutrition standards that are based on Canada's Food Guide as well as the Institute of Medicine's recommendations. These standards are meant to ensure that programs offer healthy foods. They do, however, also present a challenge to coordinators who have difficulty in finding affordable foods that meet the guidelines. Environmental factors tend to affect program participation as well. Seasonal changes will either deter or encourage students to use the program. Also, many coordinators strive to make their program environmentally-friendly, however some food safety regulations are not conducive to this. This presents an issue specifically for programs without access to dishwashers, because many coordinators under these circumstances are forced to use disposable plates/cutlery.

In conclusion, the success of a nutrition program is dependent on a range of ecological system factors. While factors in the microsystem generally influence program participation and the benefits to the student themselves, the outer-systems mainly affect the processes of program implementation. It is also important to note that factors across systems also link together and impact each other, indicating the complexity of these programs. Programs can be simple or complex, and high or low-functioning. SNPs are can be highly influenced by the multiplicity of factors discussed above. The interactions between these four layers are what can challenge the success or failure of a SNP program. It is the role of the coordinator to facilitate these interactions. In order to better support programs, improvements are needed at each system level

to eventually benefit the individual programs, and therefore, ensure the health of each individual student.

Table 15: Turning threats into Opportunities: Recommendations emerging from the research study

For Public Health:
<ol style="list-style-type: none"> 1. Increase access to support and training for coordinators and volunteers (teachers, parents, students) that is flexible in timing and approaches 2. Provide training including: <ol style="list-style-type: none"> a. community development/ fundraising b. menu planning (considering allergy, ethnicity, nutrition, recipe suggestion), shopping (considering nutrition, label reading, budget) c. a list of healthy, affordable food options for pre-packaged foods (ie. granola bars that are not as high in sugar) d. considerations for environmental health (i.e., use of chemical cleaners and reduction of disposable dishes) 3. Accommodate for previous learning (e.g., A ‘test’ for coordinators knowledgeable in food safety, so those who are not in need of the training can be identified) 4. Apply techniques to alleviate fears concerning public health enforcement role (i.e, inspection) 5. Provide resources including: identification of affordable community food resources, education resources for students, parents/community that consider language and literacy 6. Design and deliver education programs to enhance SNPs (e.g., Education, taste tests of healthy cultural food options for integration into programs)
For BFK:
<ol style="list-style-type: none"> 1. Support access to healthy foods <ol style="list-style-type: none"> a. Coordination of delivery services between schools, especially bulk purchases b. Consider special challenges faced by smaller as well as remote schools (e.g., smaller schools can’t order in bulk → food waste) 2. Help (with Public Health) to identify community partners 3. Provide advice on effective tracking techniques (for food inventory and student participation)

4. Support program efficiency
 - a. Decrease time demand of coordinators
 - i. streamlining paperwork/reports
 - ii. streamlining processes i.e., police checks, fundraising applications
 - iii. providing templates for letters for program sponsorship & for parent community information about the program (ensuring that parents are aware of timing and access issues and to help allay any concerns or stigma)
5. Provide credit card for program purchases
6. Support a meeting of coordinators to provide social support and share ideas (e.g., Successes and struggles, community partnerships, use of volunteers/students, funding applications)
 - a. create an online sharing forum; invite public health to participate

For Government:

1. Funding should accommodate paid program coordinators
2. Increased funding will help promote program expansion and ensure that programs have minimum facilities required to ensure food safety (sinks, refrigerators, dishwashers)

For Schools:

1. Provide a designated space for programs (ideally with adequate space, equipment, storage, and a pleasing atmosphere)
2. Support programs through money and resources (human, physical, educational)
3. Ensure recognition for volunteers
4. Support consistency (5 days per week)
5. Consider timing of program in relation to bus and school schedules
6. Accommodate a variety of ways to support student access to healthy foods (e.g., keeping food available past program hours for late students)
7. Consider a card approach if student payment for the program is needed
8. Encourage student participation in program planning (menu selections, shopping) and delivery
9. Integrate social opportunities and events within the SNP (involving the whole school → teachers, students, volunteers, principal)

- | |
|--|
| <ol style="list-style-type: none">10. Promote healthy eating among teachers and school staff who act as role models for students11. Incorporate program into school food policy |
|--|

6.11 Limitations

There were a few limitations of the study. First, the survey used was a modified version of the OCNPEP best practices survey. While the modified survey was tested by another program coordinator of a different region's nutrition program, the survey itself was not validated; only face validity was examined. While a broad range of schools participated in both the survey and interview, only those in school settings participated in the interview. There was little survey response from coordinators running programs in community groups or clubs. The qualitative interviews also did not include any data from community groups. This group is therefore under-represented. Another limitation was that only schools or centres that began their programs prior to the 2009 year were studied. The experiences of the newest programs are therefore not covered in this evaluation.

Some of the limitations in this particular study may also give direction for future research. For instance, the current study focused only on program coordinators views. As the results showed, many other stakeholders impact the success of a nutrition program. Therefore, future research should ideally include, principals, custodians, teachers, parents, public health staff, and students themselves to view programs from multiple perspectives. While this study only gathered coordinators self-reported data, it would be useful to evaluate the nutrient content of meals offered at these nutrition programs.

7.0 Conclusion

School and community nutrition programs play a vital role in the academic, behavioural, and social well-being of students. The school-food environment impacts both students and families, and these programs can help ensure that students have access to nutritious food throughout the day. This study was one of the first evaluations to be done on this Region's programs. Through the quantitative survey and the qualitative interviews, the major strengths, weaknesses, opportunities and threats experienced by program coordinators were discovered. The SWOT analysis showed that programs in the Region were not similar to each other. In fact, not one these programs ran the same way. Because each site had different strengths and challenges, one form of support may not be sufficient for all programs. Multiple strategies need to be in place to support programs at individual levels. Therefore, health units can have a major role in helping to support programs, whether it is through menu planning, food safety training, helping coordinators find healthy food options, or helping them build partnerships with their community to increase collaborations. Nutrition programs provide numerous benefits to students and it is critical that coordinators receive the support they need to run successful programs. As one public high school coordinator stated,

I never really understood the importance of these programs until I became heavily involved in the planning and delivery. We feed about 400 students a week and many rely on our program as a major source of their daily food intake. I believe that it's great the government provides funding for us, but the root problem is that these students' parents are at such a low socio-economic level that if it wasn't for this program many of our students would go hungry everyday. If it wasn't for organizations like BFK I don't know how we would run our program so economically. The fact that 1.3 million kids go to school hungry everyday doesn't seem like just a number when you are involved in programs like these.

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Appendices

Appendix A

ETHICS APPLICATION: Office of Ethics Research

University of Waterloo

A1: Title of project:

A process evaluation of the Peel Region Breakfast For Kids (BFK) school student nutrition programs: perspectives of program coordinators

A2-A4

Faculty Supervisor: Dr. Rhona Hanning

Student Investigator: Renata Valaitis

A5: Level of Project

A6: Funding Status

- Awaiting potential United Way grant from BFK (November)

A7: Ethics review by other Institutions' Research Ethics Boards

- Peel District School Board
- Dufferin Peel Catholic District School Board

A8: Dept Committee Clearance for Graduate Thesis Research

- Prior review by faculty supervisor and research committee before ethics submission

A9: Expected Project Commencement Date/Expected Project Completion Date

- Expected commencement: As soon as possible (November 2008)
- Expected completion date: (August 2009)

B. Summary of Proposed Research

B1a. Purpose and/or Rationale for Proposed Project

Breakfast for Kids is a student nutrition program that is dedicated to ensuring that every child in the Peel region attends school well nourished and ready to learn. Over 70 programs exist in the Peel region across elementary and high schools, both public and catholic. These programs come in the form of either breakfast, snack, or lunch programs. Research has shown a strong link between nutrition and learning.

Those children who have a nutritious breakfast /lunch perform better in school (Breakfast for Learning, 2006). Teachers have also reported improvements in the classroom learning environment; they have seen increased attendance, fewer classroom disruptions and improved classroom behaviour (Hyndman, 2000). Also, dietary patterns earlier on in life often predict future eating behaviours (American Dietetic Association, 2006). The breakfast programs are volunteer-based and most of them are run by a program coordinator (usually a teacher at the school). Research has shown a strong link between nutrition and achievement and overall health, however many of these programs are never evaluated. The Ontario Child Nutrition Program Evaluation Project (OCNPE) has identified 8 components affecting current student nutrition programs. One that is often ignored is the evaluation component. Therefore, the purpose of this research is:

4. To determine program coordinators' views of the strengths (assets, successes), weaknesses (needs, gaps), opportunities (health unit support role), and threats (barriers) associated with their BFK program in relation to the following components:
 - a. Access and participation of students in the school nutrition programs
 - b. Parental involvement in and consent for participation in BFK
 - c. Partnerships and collaboration with the community to support BFK
 - d. Inclusive and efficient program management
 - e. Food quality
 - f. Safety
 - g. Financial accountability
 - h. Evaluation
5. To identify structures and processes of the BFK program in Region of Peel with respect to program components 1.1 to 1.8 noted above.
6. To determine program coordinators' perspectives on how the Region of Peel Public Health can support and enhance the Breakfast for Kids Student Nutrition Programs.

B1.b) LAY SUMMARY (Word count: approx 100)

The BFK student nutrition programs in the Peel Region are run in various ways. With different facilities in each location, and varying numbers of volunteers these programs range from high functioning to low functioning. The local health department has noticed these inconsistencies and has called for an SWOT evaluation of these programs. The main purpose of the evaluation is to determine the program coordinators' views of the strengths, weaknesses, opportunities and threats associated with their own

school's program and to investigate what roles health unit staff can play to support and augment the BFK programs. A general survey will be administered to ALL 80 (?) programs, while audio-taped interviews will be conducted with 15-30 coordinators to identify these specific program's needs. Throughout this evaluation, the hope is to be able to identify ways in which the Peel Regions' health department can help support these programs to improve them in the future.

C. 1. Methodology

a)

Which of the following procedures will be used?

- Computer administered tasks or surveys (Are they standardized?)
- Interviews (in person)
- Audiotaping
- Analysis of secondary data set (no involvement with human participants)

b) Provide brief sequential description of the procedures to be used in this study:

This evaluation will be based on a mixed methods approach. The first component will be a mixed method online survey: forced choice questions will be analyzed quantitatively, while open ended questions will be analysed qualitatively. General information regarding the programs and schools will be collected through secondary data analysis; the BFK program director has access to information such as each school's name, location and type, what days per week the programs are run, etc. The survey will be distributed to all Breakfast For Kids program coordinators in the Peel region to help obtain a general description of the programs. The main components of the survey include: access & participation, parental involvement/consent/partnerships and collaboration, inclusive and efficient program management, food quality, safety, financial accountability, and evaluation. The survey containing questions for these eight components was modified from a best practices survey created by the Ontario Child Nutrition Program Evaluation Project (OCNPEP) that was used to evaluate Canadian breakfast programs. This survey was condensed and modified based on suggestions from the research advisory team (including specialists in the field: program managers, experts in nutrition sciences and public health who are located in Peel Region). The survey will be created online using a program called Survey Monkey, in hopes of increasing the response rate. This survey will be pilot tested for ease of use, readability, and relevance by a program coordinator from a breakfast program in a different region.

After the pilot test, the survey will be sent to all program coordinators running breakfast programs in the Peel Region. The Dillman method (Dillman, 2000) will be used to ensure a better response rate. First the coordinators will be sent (via email) a letter of information/consent letter as an invitation to participate in the study. This email will also provide them with the URL for the survey that participants can click on for easy access to the survey. As per Dillman's recommended protocol, two reminder emails will be sent to encourage coordinators to complete the survey. The first reminder email will be sent four days after the initial invitation is sent. Then four days later, the second reminder letter will be sent only to those who have not completed the survey. A thank you/reminder letter will be sent one week after the last reminder letter (depending on whether they have or have not completed the survey). Each invitation letter will include a short but unique identification number that will need to be entered in the survey so the primary researcher can track who has completed the survey. Without entering this number, participants will not be

able to complete the survey. This will ensure that reminders will NOT be sent to those who have already completed the survey

An additional qualitative portion of this research will consist of one-on-one interviews with a sample of selected program coordinators. The invitation to participate in the interviews will be extended to survey participants in the same information/consent letter that will be sent to recruit participants to complete the survey. The survey participants will be asked if they would be willing to be contacted again regarding their participation in an interview. These interviews will be conducted in hopes of obtaining more detailed and in-depth information regarding the strengths, weaknesses, opportunities, and threats of these selected specific programs. The primary researcher will randomly select approximately 30 coordinators to interview (depending on how many agree to participate). The primary researcher will conduct interviews with each coordinator at a mutually convenient time. Interviews will be semi-structured in nature and audio-taped lasting approximately forty-five minutes to an hour. These interviews will later be transcribed. Questions will be open-ended pertaining most specifically to the strengths, weaknesses, opportunities, and threats of their specific program. The survey and interview data will be kept in a locked cabinet for 2 years, after which will be destroyed.

PARTICIPANTS IN THE STUDY

The participants of this study will consist of program coordinators of current BFK programs. Most BFK programs are run in schools, and a select few are run in community centers. They are run in both public and Catholic schools, in elementary, middle and secondary school settings. Many of the BFK program coordinators are teachers in the school. All BFK coordinators will be asked to complete the survey and if they are willing to participate in the interview. Of those who agree to participate in the interview, approximately 30 coordinators will be chosen for the interview (depending on how many agree to participate). For those who agree to participate in the interviews, a stratified purposeful random sample of coordinators will be chosen for the interviews based on school level (ie. primary, middle and secondary school). This is in hopes of interviewing a representative sample from each group.

RECRUITMENT:

Regarding recruitment, one of the members of the research team maintains all contact information for the current BFK program coordinators in the Region of Peel. Coordinators will be contacted only through email. An introductory letter will be sent to all program coordinators explaining the research study by the BFK coordinator. They will inform the coordinators that the primary researcher will be contacting them through email in the near future. Any coordinators who do not wish to be contacted further will be considered “non-respondents” and will be taken off the email list. The rest of the participants will then receive the follow-up emails from the primary researcher, as explained in the Dillman method. All emails will be sent from the primary researcher directly. When the select participants are chosen for the interviews, the researcher will plan a mutually convenient time to conduct the interview. These face to face interviews will be taking place off campus, most likely at the school where the nutrition program takes place, or where the coordinator would like to meet.

COMPENSATION FOR PARTICIPANTS:

If funding is obtained, participants in the interviews will receive a token of appreciation in the form of a small gift certificate ranging from \$5 to 20. Survey participants will be entered in a draw for a food voucher to a local grocery store or food producer.

FEEDBACK TO PARTICIPANTS:

All participants who complete the survey will be emailed a letter of appreciation. An executive summary of study results will be made available to all participants on request. The email of the primary researcher will be provided for follow up if participants wish to view the results. A progress report will be presented to the Peel research advisory team mid-way through the research if they request this. A final report will be presented to the research team after completion of the study.

POTENTIAL BENEFITS OF THE STUDY:

This study will provide program coordinators and the Peel Region health department with information about their current programs as well as recommendations to improve program delivery. In addition it will provide specific guidance to health unit staff in ways that they can support and enhance Breakfast for Kids programs in Peel Region schools. Programs will be able to learn from each other's strengths, as well as learn about opportunities to improve as well as overcome challenges or program weaknesses, ensuring that more students are receiving a healthy breakfast every day.

POTENTIAL RISKS FOR THE STUDY:

There are no known or anticipated risks regarding involvement in this study.

INFORMATION & CONSENT:

Regarding consent for the online survey, no signed documents will be required. Filling out the survey will be accepted as passive consent by the coordinators. For the interviews, written consent will be required. The interviewer will bring 2 copies of the information/consent letter and have the coordinators read and sign both documents before the interview begins for face-to-face interviews. One copy will be kept by the researcher, and the other will be given back to the participant for their records. In cases where phone interviews are conducted, consent forms will be faxed to participants, signed and faxed back to the researcher.

Since this research has two phases, the first email with the invitation for the survey will contain a section regarding re-contacting participants about their potential future involvement with the second phase (the interview). Participants will be asked whether or not they would agree to participate in the second phase. They will be advised that agreeing to be contacted later does not oblige them in any way to participate, and that they can change their minds at any time.

EXCEPTIONS TO REQUIREMENT FOR WRITTEN CONSENT

The cover letter for the survey will state that consent to participate will be implied by completion and return of the survey.

F. ANONYMITY & CONFIDENTIALITY OF DATA

All information provided by the participants will be kept confidential. Only the primary researcher and her faculty advisor will have access to any information collected from the coordinators. The researcher will ensure that the data collected are stored in a locked cabinet that is only accessible by themselves and their advisor. No identifying information will be used; each coordinator/school will be assigned a specific ID number that is only identifiable to the primary researcher. The data retrieved from the surveys and interviews will be used in the report, however there will be no way to identify which school/coordinator the information is coming from. Results will be reported in aggregated form. All surveys and tapes will be kept for 2 years in a locked cabinet and will be destroyed after that period. All information will be kept confidential unless otherwise contracted with the participant.

At the end of the survey a few questions will be added to inquire if coordinators would like follow up by the health unit for program support, for example, for food safety training. The survey will clearly indicate that any answers to these final questions in the survey will be shared with the health unit and that the name of the coordinator will be identified so that the health unit can follow up with the particular school.

DECEPTION

This study will not be using deception.

Appendix B

BFK Budget

Transcription

\$25 per hour * 25 interviews
(3 hours transcription per interview)\$ 1 875

Mileage

25 schools visited
80 km Waterloo to Peel one way @ .45 per km\$ 1 800
(160 km * .45 = \$72 per visit → \$72 * 25 visits = \$1 800)

Supplies & Equipment

Batteries.....\$ 50
Digital tape recorder.....\$ 250

Software for Analysis

Total Cost for NVivo (qualitative software).....\$ 773.50
Total Cost for SPSS (quantitative software)\$ 100

Printing & Stationary

Printing of ethics applications, reports for schools & health department, consent for
interviews.....\$ 300
Mailing reports.....\$ 50

Incentives

25 interviews X \$20 gift certificate.....\$ 500
Draw for 5, \$50 food vouchers (survey).....\$ 250

Miscellaneous

Criminal Record Check\$ 40

TOTAL ----- \$5 988.50

Appendix C

School BFK Nutrition Program Evaluation Survey

1. Enter your four digit identification number. (It is located at the bottom of your email invitation to participate in the survey)

2. What student nutrition programs does your school offer? (Check all that apply)

- Breakfast Program
- Lunch Program
- Snack Program

3. What are the top three challenges of your student nutrition program?

4. What type of student nutrition program/s do you offer? (Check all that apply)

- Hot food
- Cold food
- Bag to go food
- All day food basket

Other?

5. Who is involved in planning and delivering your program? (Check all that apply)

	Planning	Delivering
----- Hired program coordinator/monitor	<input type="checkbox"/>	<input type="checkbox"/>
----- Volunteer program coordinator/monitor	<input type="checkbox"/>	<input type="checkbox"/>
----- Parents/caregivers	<input type="checkbox"/>	<input type="checkbox"/>
----- Teachers	<input type="checkbox"/>	<input type="checkbox"/>
----- School support staff	<input type="checkbox"/>	<input type="checkbox"/>
----- Student volunteers (non-participants)	<input type="checkbox"/>	<input type="checkbox"/>
----- Students in the nutrition program	<input type="checkbox"/>	<input type="checkbox"/>
----- Principal/ Vice principal	<input type="checkbox"/>	<input type="checkbox"/>

Seniors or community members

Others?

6. How many of each type of volunteer assists in your program? (Please enter number in the right column)

Parents/Caregivers

Students in the breakfast program

Students not in the breakfast program

Seniors

Principal/Vice-Principal

Teachers/Coordinators

Community Members

Other (indicate number & please explain)

7. Do you have public health staff involvement in your school nutrition program? (Check all that apply)

Yes

No

Already have sufficient involvement

8. Would you like more public health staff involvement in your program?

Yes

No

Already have sufficient involvement

Please explain:

9. Do you have adequate fundraising/money to meet your needs?

Yes

No

10. What level of financial/fundraising support do you receive from the following sources?

1-Major

2-Moderate

3-Mild

4-None

Parent donations

Student
 contributions

Community
 donations

Major sponsors

Grants

Other

Other (please specify):

11. Do you have enough supplies to meet your needs?

- Yes
- No

12. Regarding supplies, what level of support do you receive from the following sources?

1-Major 2-Moderate 3-Mild 4-None

Parent donations

Student
 contributions

Community
 donations

Major sponsors

Grants

Other

Other (please specify):

13. Do you have adequate volunteer support to meet your needs?

- Yes
- No

14. What level of volunteer support do you receive from the following sources?

	1-Major	2-Moderate	3-Mild	4-None
Parents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
School Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify):

15. What type of menu do you have?

- Weekly
- Selective
- None

16. How often do you serve food from the following food groups?

	Always	Usually	Sometimes	Never
Vegetables & fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Milk & Alternatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meats (Meat, fish, poultry, eggs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meat alternatives (peanut butter, tofu, beans)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oils & fats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain "other foods"

17. Would you like support from the Peel Health Department on the following topics:

	One on one consultation	Small group	Large group training	I do not want support
Menu planning and nutrition support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Food safety training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please explain if you have other ideas about support you would like...

18. Where do the children who attend your program eat the program's meal? (Check all that apply)

- Classroom
- Hallway
- Gymnasium
- Kitchen
- Outdoors
- Lunchroom

Other (please explain):

19. What do you have at your facility? (Check all that apply)

- No sink
- One sink
- Two sinks
- Three sinks
- Industrial dishwasher
- Refrigerator

20. Does your program include an education component?

- Yes
- No

If yes, briefly describe what it involves

21. Would you like Peel Public Health staff to follow up with you regarding:

- Yes No Already have
sufficient

involvement

General public
health
involvement

Menu planning or
nutrition
support

Food safety
training

22. I am willing to participate in the follow up interview (phase two):

Yes

No

23. Is there anything else you think we should know?

Thank you for participating in this survey. We very much appreciate and value your contributions!

Appendix D Cover Letter

Title of Research Study: A Process Evaluation of the Peel Region Breakfast for Kids School Student Nutrition Programs; Perspectives of Program Coordinators

Student conducting the Health research: Renata Valaitis, University of Waterloo, Faculty of Applied Sciences

Faculty Supervisor: Dr. Rhona Hanning, University of Waterloo, Faculty of Applied Health Sciences

Breakfast for Kids (BFK) is a student nutrition program dedicated to ensuring that every child in the Peel Region attends school well nourished and ready to learn. Research has shown a strong link between nutrition and achievement and overall health, however, to date, Peel Region programs have not been evaluated. The program administrators of the BFK and the Region of Peel Public Health Department are committed to enhancing the BFK programs. Therefore, at their request, an independent confidential evaluation of the programs is being conducted by researchers at the University of Waterloo.

The overall goal of this evaluation is to identify strengths, weaknesses of current BFK programs in Peel, barriers or threats to the success of the programs, and opportunities for improvement including support from Region of Peel Public Health.

PURPOSE:

1. To determine program coordinators' views of the strengths, weaknesses, opportunities, and threats associated with their BFK program in relation to the following components:
 - a. Access & participation
 - b. Parental involvement/consent
 - c. Partnerships & collaboration
 - d. Program management
 - e. Food quality
 - f. Safety
 - g. Financial accountability
 - h. Evaluation
2. To describe structures and processes of the BFK programs in the Region of Peel with respect to the above components through a survey of all programs
3. To determine program coordinators' perspectives on how the Region of Peel Public Health can support and enhance BFK programs

PARTICIPATION:

Participation in this study involves 2 phases: The first phase involves the completion of a **20 minute online survey**. The survey asks general questions about your program related to the above components (item 1.a. to 1.h. above). We hope that program coordinators of **all** BFK programs will participate in this phase. As a token of appreciation, when you complete the survey, you will be automatically entered in a draw to win a food voucher from a local grocer to support your BFK program.

The second phase of the study involves a one-on-one, face to face interview lasting approximately one hour. At the end of the survey, there will be a question asking if you are willing to participate in the interviews. Only a random sample of these individuals who agree will be interviewed. The interview will be scheduled at a convenient time and location for each participant. The interview will be tape-recorded and transcribed for later analysis. The purpose of the interview is to get an in depth understanding of the strengths, weaknesses, opportunities and threats experienced by specific programs. Participation in phase one (the survey) does not in any way obligate you to participate in phase two (the interview), however, only through a careful evaluation of programs can meaningful change be supported.

You will be able to decline to participate at any time, or refuse to answer any questions.

RISKS:

There are no known or anticipated risks regarding involvement in this study.

BENEFITS

Participation in the survey and/or interview will assist program administrators as well as health unit staff by identifying ways that BFK programs in Peel Region can be enhanced or improved, and coordinators better supported. Program staff will be able to learn from the composite report of program strengths, as well as learn about opportunities to improve programs and overcome challenges.

CONFIDENTIALITY

All information provided by you will be kept confidential. Only the student researcher and advisor will have access to information collected directly from the survey or interviews. No identifying information will be used in verbal or written form that would link a particular survey or interview to a specific coordinator or program. All results will be reported as grouped data where no individual or program can be identified.

You will be contacted again in approximately three to four days with a link to the online survey. Participation in the survey and interview would also be greatly appreciated. If you identify that you are willing to participate in the interview (and if you are randomly chosen to participate in the interview), you will be contacted by Renata Valaitis to set up a time and place, as well as to

sign a consent form. I look forward to hearing from you. If you have any further questions or concerns, feel free to contact me through phone or email.

Sincerely,
Renata Valaitis
(519) 504 2125 (Cell phone)
rfvalait@uwaterloo.ca

Rhona Hanning
(519) 888-4567 ext 35685
rhanning@healthy.uwaterloo.ca

Appendix E

Information Letter and Consent Form

University of Waterloo

Date

Dear _____

Peel Region schools now have over 80 Breakfast for Kids programs. The Boys & Girls Club and Region of Peel Public Health are committed to helping these programs and to better meet the needs of Peel children. To help achieve this, they have invited researchers from the University of Waterloo to conduct a confidential, arms length evaluation of Peel BFK programs. Your participation will ensure that the feedback is relevant and useful.

I, Renata Valaitis, am a Master's student in the Faculty of Applied Health Sciences at the University of Waterloo conducting research under the supervision of Dr. Rhona Hanning. As you are aware, in the Peel Region, Breakfast for Kids programs are currently being offered to help ensure that every child attends school well nourished and ready to learn. Research has shown a strong link between nutrition, achievement and overall health. However, Peel Region nutrition programs have not been previously evaluated to determine how they can be improved. Program coordinators play the key role in shaping each individual program. Therefore, we want to learn about your perceptions of your program. The objectives of this confidential evaluation are:

- To describe how specific Breakfast For Kids programs are run in the Peel Region
- To evaluate the strengths, weaknesses, opportunities and threats of current programs
- To identify ways in which Region of Peel Public Health can strengthen Breakfast For Kids programs

There are two phases to this project. The first phase involves an online survey (20 minutes) which coordinators from all BFK programs in Peel Region are being asked to complete. The second phase involves a one hour interview with a selection of program coordinators. We hope that you will accept this invitation to participate in phase two as well.

Phase one: You will be asked to complete a 20-minute online survey. Survey questions focus on a description of your program including: program supports (fundraising, volunteers, and other resources), food/menu, and facilities. If you prefer to complete the survey on paper versus the web, please contact us and we will make arrangements to provide you another method of participation. Participation in this study is voluntary. You may decline to answer any questions that you do not wish to answer and you can withdraw your participation by removing your

responses from the survey and not submitting. There are no known or anticipated risks for participating in this study.

The second phase of the study will entail a confidential one hour, face-to-face, tape recorded interview with those who choose to participate. There will be a question on the survey asking whether you would be willing to participate in the interview. Participation in the interview is voluntary and you may decline answering any questions you prefer not to answer. Questions asked will revolve around the strengths, weaknesses, opportunities and threats experienced by your program (ie. What does your program do well? What are your main struggles?, etc.). Your involvement in the survey does not obligate you to participate in the interview. However, the interview will give you the opportunity to share any information or express any feelings that may be helpful to the evaluation in a less structured manner than the survey. I will contact you in about one week if you are randomly selected, to determine if you would be willing to participate in the interview, and to decide on a mutually convenient time and location. You may indicate your preference at this time.

All information that you provide through your participation in this study will be kept confidential. Information and perceptions will be described for the programs as a whole, in a way that no individual program coordinator or individual program could be identified. Further, you will not be identified in any report thesis, or publication based on this evaluation. There are no known or anticipated risks to participation in this study. Benefits include the potential to improve your program through increased support from the health unit. The data collected through this study will be kept for a period of two years in a secure location. As well, electronic data will be stored on a secure UW server for two years and then erased.

If after receiving this letter, you have any questions about this study, or would like additional information to assist you in reaching a decision about participating, please feel free to contact Dr. Hanning at rhanning@healthy.uwaterloo.ca or myself, *Renata Valaitis*, at rervalait@uwaterloo.ca.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. Should you have any comments or concerns resulting about your participation in this study, please contact Dr. Susan Sykes in the Office of Research Ethics at 519-888-4567 Ext. 36005 or ssykes@uwaterloo.ca.

THE SURVEY:

Here is the link to the survey:

Your personal identification number is **XXXX**. You will be asked to give this number for the first question of the survey in order to access the rest of the survey. The reason for the identification number is so that the primary researcher will be able to track who has completed the survey. This ID number is also used to maintain your confidentiality; only the primary researcher will know your ID number.

Also, please note your completion of the survey will be considered consent for phase one of the study.

Thank you in advance for your co-operation and participation in this evaluation.

Yours sincerely,

Renata Valaitis

Appendix F
Reminder Email

Date

Dear _____,

Recently we sent you a questionnaire, the *School Nutrition Program Evaluation Survey*. **If you have already completed questionnaire, please accept our sincere thanks. If not, please consider doing so today.** We are especially grateful for your help, because it is only by asking program coordinators to share their experiences that we can understand how to improve nutrition programs in the Peel region.

If you did not receive a questionnaire, or the URL did not link you to the survey, please contact Renata Valaitis at 519 504 2125 or email at rfvalait@uwaterloo.ca and we will get another one to you in today.

Sincerely,

Renata Valaitis

Appendix G

Thank You Email for Survey Participation

Thank you very much for participating in our Evaluation of the Breakfast For Kids survey! Your feedback is extremely valuable.

If you would like to see a copy of the results of the survey, let us know by sending us an email. A summary of the composite results of all of the BFK program surveys will be sent to you.

Remember that all of the information you provided will be kept confidential, and your identity will not be revealed.

If you have any general comments or questions related to this study, please contact Renata Valaitis, University of Waterloo, rvalait@uwaterloo.ca.

If you have not previously elected to participate in a one-hour confidential interview regarding your BFK program and would like to do so, please contact me.

We would like to assure you that this study has been reviewed by, and received ethics clearance through, the Office of Research Ethics. If you have any concerns regarding your participation in this study, please contact Dr. Susan Sykes, Director, Office of Research Ethics at ssykes@uwaterloo.ca or 519-888-4567 Ext. 36005.

Sincerely,

Renata Valaitis

Appendix H

Interview Consent Form

I have read the information presented in the information letter about a study being conducted by Renata Valaitis (MSc Candidate) and Dr. Rhona Hanning of the Department of Health Studies and Gerontology at the University of Waterloo. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that I have the option of allowing my interview to be audio recorded to ensure an accurate recording of my responses.

I am also aware that excerpts from the interview may be included in the thesis and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

This project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo. I was informed that if I have any comments or concerns resulting from my participation in this study, I may contact the Director, Office of Research Ethics at 519-888-4567 ext. 36005.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

YES NO

I agree to have my interview audio recorded.

YES NO

I agree to the use of anonymous quotations in any thesis or publication that comes of this research.

YES NO

Participant Name: _____ (Please print)

Participant Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

Appendix I
PEEL BREAKFAST FOR KIDS PROGRAM EVALUATION
INTERVIEW GUIDE FOR COORDINATORS

General Description:

1. Can you briefly describe your student nutrition program? ** JUST A BRIEF OVERVIEW

Prompts: Who helps out? What do you generally serve?

How long has your program been running?

When does the program run?

What facilities do you have to help run your program?

Is there anything unique about your program?

2. Roughly how many students attend from the school?

Prompts: Do you think that you are reaching the kids who could most benefit from your program? If not, why? What could be done?

Strengths:

3. What do you think your student nutrition program does very well?

Prompts: You might consider the main strengths of your program compared to other programs? → Therefore, have you heard about what other programs in the area are doing?

OR Do you receive any positive feedback, or satisfaction reports from students, teachers, or community members?

Weaknesses

1. No programs are perfect. What do you think are the main weaknesses of your program?
2. What are the gaps in your program?

Prompt: Are they in/out of your control?

What things are you missing in your program? Think about things that are within your control and those things out of your control?

3. Are there any specific weaknesses that you have mentioned that are more likely to make your student nutrition program more vulnerable to closing?

Opportunities

1. Where would you like to see your program going in the next 5 years? What opportunities do you see that could support this? (are there any potential resources, changes in policy, changes in funding, new partnerships that you see evolving?)
2. If you could change your program, what would you change?
 Prompt: How could your program be improved or better supported?
 If they say NO →
3. What opportunities do you see that would help achieve your programs goals?
 Prompt: Consider both internal & external opportunities
4. Do you know of any other programs that are doing positive things that could be adopted in your program? (Do you ever hear about other nutrition programs? → how do you find out about what other programs are doing?)

Threats

1. What obstacles does your local program face? Prompts: Major & minor obstacles?
 Internal & external obstacles? Issues within the program or outside of the program?
2. Are you at all worried about sustaining your program in any way? If yes – what are your concerns? If no -- Why not?
 Are there any concerns you have about for the future of your program?
 - a. If yes, how? Prompts: Lack of facilities/volunteers/money/support?

Program Support

1. Can you briefly describe what support you currently receive for your student nutrition program(s)? → ie. funding, donations, administrative, training, volunteers?
 - a. PROMPT: What are your sources of support? → Support from BFK? Support from health unit? Other sources?
2. Do you feel that you are receiving enough support to successfully run your program(s)?
 - a. If no – how much support would you need? And where would you like to see this support coming from?
3. In an ideal world, what kind of training/consultation would be most useful to you and your program?
 - a. Annual training? Small group/local site training? E-based training?
 - b. Who would you like this support/training to be directed to? (Program coordinators?, program volunteers?)
 - c. What (content); When (frequency); How (small group? E-based? Etc.); Where; By whom/to whom?

4. do they wish to receive training/consultation/info (one or more)
 - a. annual workshop training for coordinators (large group regional)
 - b. smaller workshop training for local groups/volunteers (minimum 12) available throughout the year
 - c. e-based training, for coordinators and available to other volunteers, available throughout the year (with quiz for evaluation/certification)
 - d. list serve with consultation from public health dietitian and fellow volunteers
 - e. other ideas?
5. Is there any training beyond nutrition and food safety handling that you would like (e.g. volunteer management, community development/local fundraising)??
6. Some of the survey data has been collected already, and a large majority of program coordinators reported that they did not get a lot of support for things like menu planning or food safety training from health unit staff, yet when asked if they wanted support/followup from the health unit staff most said no. Do you have any idea as to why this could be? Reasons for this?? Any ideas to explain these results?

THANK YOU

ALL PROMPTS FOR ANY QUESTIONS ABOVE:

-asking for specificity

- Parental Involvement/Consent
- Partnerships/ Collaboration
- Inclusive & Efficient Program Management
- Food Quality
- Safety
- Financial Accountability
- Evaluation
- Access & Participation

Glossary

BFK: Breakfast for Kids

ESL: English as a Second Language

IOM: Institute of Medicine

NSLP: National School Lunch Program

OCNPEP: Ontario Child Nutrition Program Evaluation Project

OECD: Organization for Economic Cooperation & Development

PHN: Public Health Nurse

RDA: Recommended Dietary Allowance

SBP: School Breakfast Program

SNDAS: School Nutrition Dietary Assessment Study

SNP: Student Nutrition Program

USBP: Universal Student Nutrition Program