

**Implementation of Ontario's School Food and Beverage Policy  
(P/PM 150) in Peel Region: A Qualitative Evaluation**

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.

I understand that my thesis may be made electronically available to the public.

## **Abstract**

**INTRODUCTION:** With obesity rates rising in Canada, schools have been identified as an ideal setting for health promotion interventions. Across the world, school nutrition policies have been implemented to try and improve the diets and food behaviours of youth; however, policies differ greatly in their design and implementation. While some policies are considered voluntary (where schools are given a guideline with which to create their own policies), the Ontario Ministry of Education's School Food and Beverage Policy (P/PM 150) was mandated as of September 2011 for all schools in Ontario. Many factors have been identified as facilitators and barriers to school nutrition policy implementation across settings. Additionally, recommendations have been provided in terms of 'best practices' for school nutrition policy implementation. It is important to understand why school nutrition policy implementation works better in some contexts compared to others.

**PURPOSE:** The purpose of the research was to: i) describe the school food context (including student food behaviours and influences on those behaviours) in Region of Peel schools; ii) examine, from the perspectives of multiple stakeholders, the process of P/PM 150 implementation; including perceived challenges / successes with policy implementation, and its impacts; iii) analyze the results in relation to the constructs of Damschroder's Consolidated Framework for Implementation Research.

**METHODS:** This qualitative study consisted of 5 food service provider interviews, 15 school stakeholder interviews (3 elementary, 12 secondary); 5 elementary school parent focus groups; and 11 student focus groups (7 elementary, 4 secondary). Two surveys were

conducted that provided responses to open-ended questions from 46 secondary school parent surveys, and 1,251 Grade 6-10 students. Focus group, interview and open-ended survey data were analyzed using NVivo 10 qualitative analysis software. An interpretive description approach was used. Common themes were coded and patterns were found. Comparisons between participant groups were also analyzed by conducting matrix queries in NVivo 10. A second-coder analyzed a sample of transcripts and high level codes to ensure inter-rater reliability.

## **RESULTS:**

In relation to the context in which the policy was introduced, participants most frequently expressed negative opinions related to food quality, low variety, and high cost of school food. The most commonly reported student behaviour was bringing their own food from home. Many factors potentially influenced students' food behaviours, at the individual level (e.g., age, SES), social factors (e.g., parent/peer influence), and macro-level factors (e.g., weather, and community SES). Additionally, school, home and outside (of school) environments were an important factor influencing students' food choices, as they determined what foods were available and either promoted (e.g., school health promotion activities) or discouraged healthy eating behaviours (e.g., negative role models for healthy eating).

In regards to P/PM 150, participants felt that the policy promoted healthy eating, provided students' access to healthy options, and provided a safety net for students with bad eating habits. They reported concerns regarding freedom of choice, policy content (e.g., ignored

portion control, balance), and negative effects on food quality (taste, variety, affordability) and food behaviours. Some adult participants engaged in various activities (e.g. attending workshops, appointing champions) to support implementation, although activities varied widely by school. Some felt the transition was relatively easy while others described it as a larger adjustment. Participants reported a variety of resources and supports for policy implementation, such as policy booklets, workshops/ training events, P/PM 150-specific committees, and support from Public Health; while a variety of resources/supports were mentioned, not all were considered helpful.

Lastly, participants described their perceived successes and challenges with implementation which related to outcomes and impacts. In terms of successes, the ability to find popular compliant choices led to positive outcomes on school food quality. That, in addition to school health promotion activities, led to positive impacts on students' food behaviours. Regarding perceived challenges, participants felt that P/PM 150 significantly limited food choices leading to negative impacts on school food quality, variety, prices/affordability and portions. These changes led to student rebellion, and leaving school grounds to buy unhealthier options from the outside competition that were not bound by the policy. Challenges were also linked to school food revenue loss. Participants provided recommendations to the Ontario Ministry of Education that related to: a) the process of implementation (e.g., follow-up with schools, monitor compliance); b) changing the policy direction (e.g., reducing policy restrictions); and c) increasing clarity/consistency of policy messages (e.g., explaining why the policy is in place).

**DISCUSSION:** The contextual factors found to influence school food behaviours in Peel Region schools corroborates much of what has been reported in the literature. Factors influencing P/PM 150 policy implementation were closely aligned to the constructs described in Damschroder's Consolidated Framework for Implementation Research. Two additional constructs were identified that were not reflected in the framework: 'implementation climate outside the school' and 'adaptability of the inner setting'. Study results indicated that these were significant factors influencing implementation in Peel Region schools. Therefore, these factors should be considered in further revisions of the framework, in particular where it is being used to support policy implementation.

**CONCLUSION:** Understanding the context of the real world setting including the social cultural, physical and economic environment in which a new intervention is being implemented is critically important. This thesis explored the school context in one region in Ontario from the perspective of multiple stakeholders ranging from students to the staff in the food industry. Implementation of a new school food policy (P/PM 150) was found to be complex with many factors influencing its successful uptake by school stakeholders. While participants discussed many challenges and negative outcomes and impacts resulting from P/PM 150, positive impacts on school food and food behaviours were also reported. While P/PM 150 successes were identified, results related to typical food behaviours showed that the home environment still had a significant impact on student food behaviours. Therefore, impacts of the policy could be limited without addressing other environments. Those planning to implement school food policies in the future need to consider comprehensive

approaches that address potential influencing factors and environments outside of the school that impact student food behaviours.

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# **Chapter 1**

## **INTRODUCTION**

With a significant rise in the prevalence of childhood overweight and obesity, schools have been identified as an ideal setting for health promotion interventions. Across the world, school nutrition policies have been implemented as a way to promote healthy eating behaviours and improve diets amongst youth; however, little is known about policy implementation. Because worldwide policies differ so greatly, researchers have identified a need for best practices for school nutrition policy design and implementation (Mendelson, 2007). This qualitative evaluation's main objective is to i) describe the school food context (including student food behaviours and influences on those behaviours) in Region of Peel schools; and ii) examine, the process of P/PM 150 implementation; including perceived challenges / successes with policy implementation, and its impacts from the perspectives of multiple stakeholders (students, parents, school stakeholders, food service providers). The expectation is that this research will build on what is already known in terms of nutrition policies in schools, and that results be analyzed in relation to an existing framework of implementation research.

First, this thesis will review the current literature on school nutrition policy (Chapter 2), including: i) overweight and obesity and its health effects; ii) schools as an ideal setting for change; iii) comprehensive school health; iv) an overview of school nutrition policies worldwide and in Canada; v) identified health effects related to school nutrition policies; vi) common facilitators and barriers of policy implementation; and vi) recommendations for best practices.

Following the literature review, Chapter 3 will outline: i) the study rationale; ii) objectives; iii) research questions; and iv) describe the theory and framework used in this thesis. Chapter 4

will provide: i) an overview of the context in which the study took place; ii) an introduction to the larger 5-component evaluation study; iii) a description of the methods, sampling and recruitment and analysis; and iv) a description of the data sources.

The results of this study are separated into three chapters. Chapter 5 outlines the multiple stakeholder perceptions of school food, student food behaviours, factors and environments influencing those food behaviours. Chapter 6 examines participant perceptions specific to P/PM 150 and its implementation in Peel Region schools including, knowledge and opinions related to the policy, the process of implementation (including resources and supports for implementation), factors influencing implementation (including perceived successes and challenges) and their relationship to perceived policy outcomes and impacts. The final results chapter (Chapter 7) highlights participants' recommendations for future policy implementation.

This thesis includes one overall discussion chapter which incorporates results from Chapters 5, 6, and 7. The framework of Damschroder et al (2009) was integrated in Chapter 8 to frame the discussion and interpretation of findings. Appendix A contains an image which illustrates the organization of this thesis and depicts how study objectives are linked to the literature review sections, results chapters and discussion.

## **Chapter 2**

### **LITERATURE REVIEW**

#### **2.1 Childhood Obesity & Overweight**

There is increasing concern for rising rates of childhood obesity worldwide. In Canada, measured obesity has increased 2.5 times since the late 1970s (PHAC & CIHI, 2011; Roberts, Shields, de Groh, Aziz, & Gilbert, 2012; Shields, 2006). Approximately one third of children between the ages of 5 and 17 were classified as overweight (19.8%) or obese (11.7%) according to the 2009-2011 Canadian Health Measures Survey (Roberts et al., 2012). Similarly, in the USA, prevalence of obesity has tripled since 1980 with rates increasing from 6.5-19.6% among 6-11 year olds and 5.0-18.1% in 12-19 year olds (Ogden et al., 2006; Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). These rates have significant health and economic implications; they are concerning because research has shown that children who are obese are more likely to become obese adults (Singh, Mulder, Twisk, Van Mechelen, & Chinapaw, 2008; Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). Not only is obesity linked with multiple chronic conditions, such as type 2 diabetes, hypertension, asthma, osteoarthritis, cardiovascular disease, several cancers and increased risk of mortality , it also can threaten an individuals' mental and social health (Healthy Kids Panel, 2013; Lobstein & Jackson-Leach, 2006; PHAC & CIHI, 2011). These health conditions all contribute to an increased economic burden. Analyses also show that the economic burden of obesity in Canada increased from \$3.9 billion to \$4.6 billion between 2000 and 2008 and it is expected to further increase (Healthy Kids Panel, 2013; PHAC & CIHI, 2011). It is therefore important to understand what factors influence overweight and obesity rates in order to reverse this epidemic.

## **2.2 Factors Influencing Overweight & Obesity**

Many factors have been associated with high rates of overweight and obesity, including genetic, behavioural, social, cultural, and environmental factors (Crockett & Sims, 1995; Public Health Agency of Canada, 2011; Story, Neumark-Sztainer, & French, 2002). It is the complex interplay of these multiple factors that contribute to rising rates (Mendelson, 2007; PHAC & CIHI, 2011; Public Health Agency of Canada, 2009; Public Health Agency of Canada, 2011). In fact, it has been suggested that the dramatic increase in obesity rates is caused by small, cumulative environmental changes which in turn affect dietary patterns and physical activity levels and ultimately, energy balance (Brennan, Brownson, & Orleans, 2014; Wang, Orleans, & Gortmaker, 2012).

### **2.2.1 Physical Activity & Diet**

In terms of behavioural influences, low levels of physical activity and poor nutrition are considered major contributing factors for overweight and obesity. Evidence has shown that many Canadians do not get the recommended amount of daily physical activity, and the majority of children and youth do not meet the guidelines for less than two hours of screen time per day (PHAC & CIHI, 2011; Shields, 2005). According to the Report Card on Physical Activity for Children and Youth, Canada's physical activity levels have been rated a D- and fall behind many other countries (Active Healthy Kids Canada, 2014).

Studies have also reported a decline in the quality of children and adolescents' diets (Lytle, Seifert, Greenstein, & McGovern, 2000; OSNPPH School Nutrition Workgroup, 2004; Shields, 2005; Veugelers, Fitzgerald, & Johnston, 2005; Woodruff, Hanning, & McGoldrick, 2010). Intake of nutrient-dense food groups, such as vegetables and fruits and milk and alternatives, is low, and intake of non-nutrient dense, 'other' foods is high (Hanning et al., 2007; Mendelson, 2007;

Shields, 2005; Storey, Hanning, Lambraki, Dreizen, Fraser & McCargar, 2009; Taylor, Evers, & McKenna, 2005). High intakes of fat, sugar, and sodium and low levels of fibre are also of concern (Veugelers et al., 2005). In addition, there have been many studies reporting increased intakes of sugar sweetened beverages amongst youth contributing to poor diets (Briefel, Wilson, Cabili, & Hedley Dodd, 2013; Fox, Meinen, Pesik, Landis, & Remington, 2005; Harnack, Stang, & Story, 1999; Woodruff et al., 2010). Increased sugar sweetened beverage consumption not only contributes to increased energy intake, but has been shown to replace other important nutrients. Research conducted by Harnack et al. (1999) found that soft drink consumption often replaced milk and fruit juice, and therefore calcium, riboflavin, vitamin A and phosphorus (common in milk) and folate and vitamin C (common in fruit juice) were lower among youth with highest levels of soft drink consumption. A Canadian study including over 10,000 youth ages 13 to 18 found that 80% of surveyed youth had consumed at least one sugar sweetened beverage the day before an in school survey was conducted, while another 44% reported consuming 3 or more sugar sweetened beverages (Vanderlee, Manske, Murnaghan, Hanning, & Hammond, 2014). Vanderlee and colleagues (2014), did not find any significant associations between sugar sweetened beverage consumption and BMI; however, they did find a positive correlation between consumption and milk ( $p<0.001$ ) as well as fruit juice ( $p<0.001$ ).

### **2.2.2 Income & Socioeconomic Status**

Socio-economic status (SES) has also been linked to risk of overweight and obesity, however, evidence is often mixed. Key findings from the National Health and Nutrition Examination Survey, 2005-2008, suggest that low income children and adolescents are more likely to be overweight and obese compared to those of higher income; however, results did not show differences between racial or ethnic groups (Ogden, Lamb, Carroll, & Flegal, 2010). They also

suggested that the majority of those children who were obese were not low income (Ogden et al., 2010). Results from the 2007/2008 Canadian Community Health Survey show that while income increases, obesity decreases; however this finding was only observed in females (PHAC & CIHI, 2011). A relationship between *community-level* SES and weight has also been found (Coffield, Metos, Utz, & Waitzman, 2011; PHAC & CIHI, 2011; Vereecken, Bobelijn, & Maes, 2005). A study by Coffield et al. (2011) found that children from school districts with high SES had lower odds of overweight, obesity and severe obesity. It is therefore important to look at factors beyond individual behaviour and SES to better understand how the environments in which children live, work and play can impact obesity rates.

### **2.2.3 Physical Environments: Home, School & Community**

Research has focused on three environments relating to children and risk of obesity: home, school, and community. These environments all play an important role in shaping dietary and physical activity behaviours in children and youth. The home environment has a significant impact on a child's dietary intake. Parents play an essential role in shaping eating habits of children, beginning with infant feeding habits, determining what foods and beverages are provided at home, and acting as role models for healthy eating (Briefel et al., 2013; Mendelson, 2007). Children with parents who have poor eating habits and low physical activity levels are more likely to have poor eating habits and low physical activity levels as well (Mendelson, 2007). Also, children were more likely to be overweight or obese if the mothers were obese as well (Coffield et al., 2011). Briefel and colleagues (2013) discovered that the home environment contributed to high levels of sugar sweetened beverage consumption which in turn contributed the greatest share of empty calories from added sugars. On a positive note, Woodruff and Hanning (2008) found that higher family dinner frequency was associated with better quality dietary intakes.

Not only does the home environment impact student food behaviour, but the school environment is important as well (Story et al., 2002). There are many opportunities for students to be exposed to food during the school day, through cafeterias, vending machines, food programs, fundraisers and food given as rewards (Crockett & Sims, 1995; French, Story, & Fulkerson, 2002). For many students, the school environment provides independence and freedom to make their own dietary decisions. The influence of peers on dietary intake becomes more important during school years, especially at the secondary level (Vereecken et al., 2005). Similarly, teachers are considered important role models for health behaviours (French et al., 2002). Caparosa et al. found that classroom rewards, celebrations and fundraising tended to promote consumption of unhealthy foods (Caparosa et al., 2013). School food environments will be discussed in more detail later in the dissertation.

Studies have also assessed the impact of community and neighbourhood settings on dietary behaviours among children and youth. Woodruff et al. (2010) looked at the association between student food behaviours (with whom and where food was consumed/purchased) and physical and social lunch environments. They found that when participants ate between places or purchased food at a restaurant or take out establishment (not at home or school), they had higher intakes of energy, meat and alternatives and ‘other’ foods. Also, a study conducted in London, Ontario looked at neighbourhood food environments and its influence on food purchasing behaviour in adolescents (He, Tucker, Gilliland, Irwin, Larsen, & Hess, 2012). It found that 60% of schools were surrounded by three or more fast food outlets within walking distance. Also, when fast food outlets and convenience stores were within less than one kilometer of home or school environments, adolescents were more likely to consume fast food at least once a week (He et al., 2012). Other Canadian studies by Seliske, Pickett, Boyce, & Janssen (2009), and Leatherdale, Pouliou, Church & Hobin (2011), also looked at neighbourhood food retail density. Seliske et al.

(2009) found that from 188 schools across Canada, 74% of schools had a food retailer within 1km, and 92% had at least one food retailer within 5km. Leatherdale and colleagues (2011) used logistic regression to examine school and student level characteristics and their associations with the odds of students becoming overweight. Their findings showed that students were more likely to be overweight if there were more fast food retailers surrounding their school. These studies highlight the accessibility of food outlets surrounding schools and their potential to affect students' eating habits and overall health.

The factors described above are only some of the factors associated with overweight and obesity, therefore, the focus of obesity prevention has shifted to making the 'healthy choice, the easy choice' by changing food environments as well as trying to change individual behaviours. As such, schools have become a promising venue to target obesity prevention strategies, programs and policies.

### **2.3 Schools as an Ideal Setting for Obesity Prevention Efforts**

International organizations (the World Health Organization (WHO); Nutrition Friendly Schools Initiative), Canadian organizations (Health Canada; Public Health Agency of Canada; Integrated Pan-Canadian Healthy Living Strategy; Joint Consortium for School Health), as well as, US organizations (American Dietetic Association; American Academy of Pediatrics; Centers for Disease Control and Prevention; Institute of Medicine) have all recognized the importance of school environments in the prevention of childhood and adolescent obesity (Ashe & Sonnino, 2013; Bergman, Gordon, & American Dietetic Association, 2010; Coffield et al., 2011; Coleman, Shordon, Caparosa, Pomichowski, & Dzewaltowski, 2012; Hutchinson & Seagard, 2010; McKenna, 2010; McKenna, 2003; Story, Nanney, & Schwartz, 2009; Veugelers & Schwartz, 2010). Schools are considered an ideal setting because they reach almost all children and youth,

and they have the potential to reach out to communities and families as well (Leo, 2007; OSNPPH School Nutrition Workgroup, 2004). Also, youth consume approximately 30% of their daily energy intake and approximately one to two meals during the school day (Coffield et al., 2011; French et al., 2002; OSNPPH School Nutrition Workgroup, 2004; Quintanilha et al., 2013).

There are many ways in which schools can promote healthy behaviours. The Ontario Society of Nutrition Professionals in Public Health created a working group for school nutrition to help support schools in healthy eating initiatives and creation of healthy school environments. It proposes that a healthy school environment includes the following elements: “food and nutrition policies to support healthy eating; nutrition education for students; nutrition education for staff provided by registered dietitians; healthy, reasonably priced and culturally appropriate food choices available; positive role modeling of healthy eating by school staff; student, parent, and community education about healthy eating; school nourishment programs; safe food practices and allergy-safe environments; appropriate scheduling of nutrition breaks” (OSNPPH School Nutrition Workgroup, 2004) p.13-15.

Similar findings specific to comprehensive school nutrition policies were provided by McKenna (2010) based on Health Promoting Schools and the WHO Nutrition Friendly Schools Initiative; findings suggest that policies should address foods available (nutrition standards, food programs, contracts with local food producers); food environments (food and beverage marketing, food availability near schools), health education (nutrition education, staff qualifications), health services and counselling, and family and community involvement and outreach. These recommendations not only target students and their individual behaviours, they incorporate environmental changes that have the potential to reach beyond the school environment; this emphasizes the need for comprehensive school health.

## **2.4 Comprehensive School Health**

Comprehensive school health (also known as *Health Promoting Schools* in Europe and Australia, or *Coordinated School Health* in the US) is a framework used by schools to support the creation of healthy school communities. It is an “internationally recognized framework for supporting improvements in students’ educational outcomes while addressing school health in a planned, integrated and holistic way” (Pan Canadian Joint Consortium for School Health, 2010; Veugelers & Schwartz, 2010). It consists of four pillars. The first is ‘*Teaching and Learning*’ which recognizes the importance of teaching curriculum while also addressing the need for health education. The second pillar, is ‘*Social and Physical Environments*’, which suggests that the physical space inside and surrounding the school supports health and that students feel a sense of engagement and are able to form positive relationships with students, staff and the community. The third pillar, ‘*Healthy School Policy*’, recommends that policies that support health and health education are developed, implemented and tailored to each school context. Finally, ‘*Partnerships and Services*’ believes that schools should build connections with students’ families, communities, and beyond.

Schools across Canada have begun to see positive effects of adopting a Comprehensive School Health framework: Results from the Nova Scotia Children’s Lifestyle and School Performance Study (CLASS) study show that those students attending the Health Promoting School project had better diets, were more physically active and had less screen time when compared to non-health promoting schools (Veugelers & Fitzgerald, 2005b). The health promoting schools were offering healthy lunches with no junk food access, daily physical activity with access to the gym after hours, and included health curriculum with parent and community involvement. Those students attending health promoting schools also had decreased risk of overweight (59%) and obesity (72%) (Mendelson, 2007). Another example of the positive effects of Comprehensive

School Health is seen in Alberta with the APPLE (Alberta Project Promoting active Living and healthy Eating) Schools project. A study was conducted with grade five students from 150 randomly selected schools in Alberta in 2008 and 2010 that included food frequency and physical activity questionnaires and measured height and weight. Data collected in 2008 and 2010 were compared. Researchers found that in 2010, students were eating more fruit and vegetables, were more physically active and were less likely to be obese when compared to 2008 (Fung, McIsaac, Kuhle, Kirk, & Veugelers, 2013). Students elsewhere in the province that were not part of an APPLE school showed the opposite effect over the same two year period, which highlights the positive effects of a Comprehensive School Health program or approach (Fung et al., 2013). In addition, many researchers who evaluated school nutrition policies have also indicated a need for more comprehensive, multi-faceted programs and policies in their lessons' learned (Mullally et al., 2010; Quintanilha et al., 2013; Rideout, Levy-Milne, Martin, & Ostry, 2007; Vine & Elliott, 2014); this will be discussed later on.

#### **2.4.1 School Nutrition Policies & Comprehensive School Health**

School nutrition policies are considered to be a component of Comprehensive School Health as they fall within the pillar of '*healthy school policy*'. Additionally, the implementation of nutrition policies has potential to impact the food environment of the school, addressing the '*social and physical environment*' pillar. In terms of '*teaching and learning*', the ultimate goal of nutrition policies are to teach students' healthy eating habits and it is important for schools to '*practice what they preach*' in terms of nutrition education. As such, there is potential to incorporate school nutrition policies into school nutrition curriculum, which would also support comprehensive school health. Finally, the introduction of nutrition policies can promote partnerships between schools and outside organizations (food providers, food suppliers, other organizations promoting

school health, i.e. public health units) who all work together to promote healthy eating in student populations. It is clear that school nutrition policies have a place in promoting comprehensive school health.

## **2.5 School Nutrition Policies Worldwide**

There is variation across the world in terms of school feeding practices, programs and policies. Many health and government organizations have taken a lead and have provided recommendations in terms of criteria for school nutrition policies; however, a consensus has not been reached in terms of best practices (Mendelson, 2007). Internationally, policies differ in terms of their nutrition criteria (food-based, nutrient-based, limits on salt, sugar, fat, etc.), what foods the criteria apply to (cafeteria, vending, foods brought in to school) policy strictness (mandatory vs voluntary policies) and process of policy development and implementation. All of these factors can play a role in determining the success of policy implementation; however, information on all of the factors are not available for all countries. As such, the next section will provide an overview of the available data on school nutrition policies in Europe, the United Kingdom, Australia, New Zealand, USA, and Canada.

### **2.5.1 Europe**

A recent report conducted by the Joint Research Centre of the European Commission describes national school food policies across 28 European Union Member States plus Norway and Switzerland (Storcksdieck genannt Bonsmann, Kardakis, Wollgast, Nelson, & Caldeira, 2014). All 30 countries have a national school food policy in place, with the majority of policies aiming to improve child nutrition, teach healthy lifestyle habits and ultimately reduce obesity. Fifty-two percent of the policies are mandatory, while 47% have voluntary guidelines. Belgium has separate

standards for their two regions (Flanders and Wallonia) which are both voluntary. The United Kingdom has compulsory standards for its four constituent countries. Regarding the types of policies across the EU, the majority of countries have food-based standards (>90% of countries) and to a lesser degree, standards for portion sizes (>75%), and nutrient-based standards (>65%). Some countries even extend the standards to include any food and beverages found on school premises (Storcksdieck genannt Bonsmann et al., 2014). Some policies specifically ban certain items such as soft drinks. Vending machines are restricted in just over half of the EU countries.

### **2.5.2 The United Kingdom**

In terms of subsidized school meals, England offers free school meals for children, while Scotland, Wales and Northern Ireland offer free school meals only to those students who are eligible based on family income level, and eligibility for other benefits (i.e., Child Tax Credit, State Pension Credit, Working Tax Credit). Subsidized school meals are not available. The United Kingdom has mandatory nutrition standards in England (not including academies – state funded schools- which represent over half of secondary schools), Scotland, Wales, and Northern Ireland; however their policies differ from one another and differed in their development process (Adamson et al., 2013; Moore, Murphy, Tapper, & Moore, 2010; Storcksdieck genannt Bonsmann et al., 2014). In the UK, different initiatives sparked the development or renewal of policies and regulations in each country, including a “Turning the Tables” Initiative in England (2006, although guidelines existed in 2001), “Hungry for Success” in Scotland (2003), and “Appetite For Life (A4L) Action Plan” in Wales (2006, although standards already existed in 2001). The Northern Ireland Department of Education released “Catering for Healthier Lifestyles – Compulsory Nutritional Standards” in 2001 with full implementation in 2007 (Adamson et al., 2013; Moore et al., 2010).

Each country's standards have gone through extensive reviews and revisions since their initial implementation. England's standards include food and nutrient based standards for both school lunch, and food other than lunch; their standards also ban unhealthy food and drinks that are provided to students on and off school premises (including school trips). Scotland's standards include both food and nutrient based standards which cover all food and drink provided in schools throughout the day. In June 2014, the Scottish government started "Beyond the School Gate" which encourages students to stay at school over the lunch period, and suggests ways that shops, stores, and schools can play a part in offering healthy choices in and outside of school. The original standards introduced in Wales only promoted healthy options without restricting unhealthy ones; after expert panel recommendations, nutrient based standards at lunch and other standards throughout the day were renewed and re-introduced. Wales had the longest implementation period (2007 – 2013) compared to the other countries. Finally, standards in Northern Ireland apply to all food and drink provided in schools, where previously food based standards were only applied to school lunch (Adamson et al., 2013). Standards for Wales and Northern Ireland do also restrict less healthy items (those high in fat, sugar and salt).

School food policies have been developing since 2001 in England, Scotland, Wales and Northern Ireland. Each country has taken a different path in the creation and re-creation of their school food standards. With the guidance of expert panels, involvement of key stakeholders, and a number of evaluations and assessments of their school food environments (Adamson, White, & Stead, 2011; Adamson et al., 2013; Education and Training Inspectorate, 2010; Spence, et al., 2013), each country has made significant improvements to its nutrition policies, illustrating that the development and implementation of nutrition policies is often an ongoing process.

### **2.5.3 Australia & New Zealand**

Australia does not offer subsidized nutrition programs, however, many school food policies are in place. The Department of Health of the Australian Government released the National Healthy School Canteens guidelines in 2011 to promote healthy food and drink choices for children at school (The Department of Health, Australian Government, 2013). The guidelines consist of a national food categorization system for canteens (a traffic light system), training materials for staff and an evaluation framework. The guidelines are voluntary, therefore, it is up to each state /territory to choose whether or not they implement the guidelines or even parts of the guidelines (The Department of Health, Australian Government, 2013).

To date, each state/territory does have some type of guideline in place. States/territories tend to vary in their guidelines, although, they are similar in that they all apply a traffic light system in terms of foods to sell often (green), foods to sell less often (yellow) and foods not permitted for sale (red). Two of the states allow sale of red foods and drinks for one or two days per term. Many of the policies apply the rules for restricting/banning red foods beyond canteens and vending machines (fundraising, school celebrations, food as reward, and school trips/excursions). Only one state (Western Australia) has a mandatory “Healthy Food and Drink” policy in place that applies to canteens, vending machines and breakfast programs as well as classroom rewards, school camps and class trips (Pettigrew, Pescud, & Donovan, 2012a). Australian Capital Territory (ACT) did not have a policy in place previous to the National Healthy School Canteen Guidelines in 2010, but has now started to adopt these guidelines with the support of the ACT Health and ACT Department of Education and Training (The Parents` Jury, 2013). Queensland and New South Wales have the ‘Smart Choices: Healthy Food and Drink Supply Strategy’ in place, which pertains to all situations where food is supplied in schools, i.e. canteens tuck shops, vending, school excursions, fundraising, classroom rewards, etc.. Australia also has a

non-for-profit association called FOCiS Inc. (previously the Federation of Canteens in Schools) which represents school canteens nationally. FOCiS conducts a National Product Registration Program assessing the food and drink criteria based on the latest Australian Guidelines for Children and Adolescents. Many states/territories have used the FOCiS criteria as a benchmark for their own nutrition guidelines.

There is no national food program in New Zealand (Besley, 2006); however, a multitude of programs are offered, such as milk, fruit programs, garden to table programs, health promoting school advisories, etc. (Manaakitia A Tatou Tamariki Children`s Commissioner, 2013). Regarding school food policies, there was a clause written in the National Administrative Guidelines requiring schools in New Zealand to make only healthy foods and beverages available at school and to remove unhealthier items; however, survey findings showed that schools did not make necessary changes after the guidelines. After a change in government in 2008, the healthy school food guidelines were removed, which had only been in place for one year prior (Kedgley, 2013; Utter, Scragg, Percival, & Beaglehole, 2009). Many health, education, and government stakeholders expressed concern about the removal of the guidelines and the potential negative impacts on health of New Zealand students (Mrkusic, 2012). Despite this, other programs and initiatives have been recently developed that promote nutrition and physical activity in New Zealand schools. For example, in February 2014, Guidelines for School Programmes were announced describing best practices in the creation of school food programmes that encompass a whole school approach (Manaakitia A Tatou Tamariki, Children`s Commissioner, 2014). Also, other projects, like Project Energize have been created where ‘energizers’ access national, regional and local initiatives and develop their own plans to improve children’s physical activity and nutrition; they also support community healthy eating initiatives like school gardens, fruit in schools programs, etc. (Mrkusic, 2012).

## **2.5.4 United States**

### **2.5.4.1 National School Lunch Program (NLSP) & School Breakfast Program (SBP):**

The US has a long history of school food policies. In 1946, the National School Lunch Program (NSLP) was approved as a permanent program by law; it applies to all primary and secondary school students and it is a program subsidized by the Federal government through the US Department of Agriculture (Hirschman & Chriqui, 2013). Over 95,000 schools (approximately 95% of public schools) in the USA participate in the NSLP (Food Research and Action Center, 2014). In 1966, the national School Breakfast Program (SBP) was introduced in addition to the lunch program, although there are lower rates of SBP attendance as compared to the NSLP. There are three participation categories for NSLP and SBP: free-certified children, reduced-price children and children who pay (Crepsinek, Gordon, McKinney, Condon, & Wilson, 2009; Hirschman & Chriqui, 2013). Household income determines eligibility for each category; for example, to receive a free lunch, reduced price lunch, or lunch one pays for, the household income must be at or below 130 percent, between 130 and 185 percent, or above 185 percent of the federal poverty level respectively (Food Research and Action Center, 2014). The NSLP and SBP programs have been shown to have positive nutritional impacts on participating students, including higher intakes of energy, key nutrients, vegetables and milk and lower intakes of added sugars (Crepsinek et al., 2009; Cullen, Watson, Zakeri, & Ralston, 2006; Gleason & Suitor, 2001). Participation in NSLP and SBP has also shown improved student performance, including better attendance, lower tardiness rates and increases in academic performance (Taras, 2005).

The NSLP and SBP have both gone through a series of evaluations as part of the School Nutrition Dietary Assessment Study (SNDA I, II, III) (1991/92, 1998/99, 2004/05) to assess the quality of school meals. After the first SNDA I study, school meals were found to have higher percentage of fat (>30%) and saturated fat (>10%) than the US Dietary Guidelines for Americans

recommendations published in 1990. This led to the ‘School Meals Initiative for Healthy Children’ in 1995 which implemented food and nutrient standards for reimbursable meals that were in line with the US Dietary Guidelines for Americans. The School Meals Initiative set standards for minimum levels of energy, protein, vitamins A and C, calcium, and iron along with the standards for fat and saturated fat. The NSLP specifically, must provide students with one-third or more of their Recommended Daily Allowance for specific nutrients. Compliance with the standards would be evaluated every five years (Crepsinek et al., 2009; Hirschman & Chriqui, 2013). The SNDA II evaluation found significant improvements in the amount of fat and saturated fat in school meals, while still maintaining recommended amounts of key nutrients. Despite improvements, only 13-21% of schools offered meals that were below recommended levels for total and saturated fat (Hirschman & Chriqui, 2013). Results from SNDA III found that schools were still not meeting fat and saturated fat standards, despite 6 years of implementation of the School Meals Initiative; although, SBPs were more likely to meet recommendations. SNDA III also revealed high sodium content for school lunches and dietary fiber content below 2005 dietary guideline recommendations (Crepsinek et al., 2009). New recommendations continue to emerge in terms of subsidized NLSP and SBP standards in the USA; however, availability of competitive foods within schools further complicates the US school food environment.

#### **2.5.4.2 Competitive foods:**

Competitive foods are defined as foods/snacks that are available in schools outside of the federally reimbursable school meals program; they are often of minimal nutritional value and high in high in fat, sugar and salt (Centers for Disease Control and Prevention, 2012; Wharton, Long, & Schwartz, 2008). Competitive foods also tend to contribute significantly to school revenue (Bergman et al., 2010; Wharton et al., 2008). A study by the Government Accountability Office

found that 9 out of every 10 schools in the US offered competitive foods (Wharton et al., 2008).

The most common competitive foods consumed by students based on the SNDA III evaluation, included, desserts and low nutrient-density snacks (53% of all children who consumed competitive foods), cookies, cakes and brownies (12%), candy (18%), salty snacks (22%) and beverages other than milk or juice (46%) (Caparosa et al., 2013; M. K. Fox, Gordon, Nogales, & Wilson, 2009).

Many studies have shown that availability of competitive foods can have a negative impact on students' diet (Bergman et al., 2010; S. Fox et al., 2005; Kubik, Lytle, Hannan, Perry, & Story, 2003; Turner, Chriqui, & Chaloupka, 2012; Wharton et al., 2008).

Federal regulations require that foods of minimal nutritional value (competitive foods) can't be sold during NSLP or SBP meal periods in the food service area, however, à la carte foods and vending machines outside of cafeterias are not subject to any type of standard (Bergman et al., 2010).

#### 2.5.4.3 School wellness policies:

There were increased concerns about the sale of competitive foods sending mixed messages about school nutrition and healthy eating. Therefore, in 2004, the Child Nutrition WIC Reauthorization Act was implemented, requiring all schools participating in the national school lunch program to adopt a wellness policy by the 2006/2007 school year. One component of the wellness policy required schools to address competitive food guidelines (Centers for Disease Control and Prevention, 2012; Hirschman & Chriqui, 2013); however, they found that policies created by the state or districts were weak overall and nutritional effects were modest (Belansky et al., 2010; Boles et al., 2011; Hirschman & Chriqui, 2013). Some benefits have been reported regarding local wellness policies. For example, a study by Turner et al. (2012) found that there was an increase in the number of schools that did not offer food as reward to students after wellness

policy implementation. Also, a multivariate analysis conducted by Coffield et al. (2011) found that for every additional component included in a district's wellness policy, there is as much as 2.3%, 2.5%, and 3.5% lower odds in the prevalence of adolescent overweight, obesity and severe obesity, respectively.

While some positive effects of Local Wellness Policies were shown, responses of school districts in creating and implementing these policies were not consistent; therefore, to augment Local Wellness Policies, in 2007, the CDC and the Institute of Medicine (IOM) created a report based on the latest evidence — “Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth” (Institute of Medicine, 2007) – and provided school food standard recommendations involving competitive foods: “i) federally-reimbursable school nutrition programs should be the main source of nutrition at school; ii) opportunities for competitive foods should be limited; iii) if competitive foods are available, they should consist of nutritious fruits, vegetables, whole grains, and non-fat or low-fat milk and dairy products” (Centers for Disease Control and Prevention, 2012) (p.2) Finally, in 2010, Congress passed the Healthy, Hunger-Free Kids Act of 2010, which required the development of federal nutrition standards for all school competitive foods. The CDC then conducted a study to compare state policies with the IOM’s gold standard recommendations. Results showed that by October 2010, 78% of states had implemented a state policy for competitive foods; however, no policy met the ‘gold standard’ set by the IOM (Centers for Disease Control and Prevention, 2012; Hirschman & Chriqui, 2013). While significant improvements have been made to school food policies (for both federal school meal programs and competitive foods), there is still a long way to go in terms of improving school food environments promoting overall student health.

## **2.5.5 Canada**

The Canadian context differs from the United States in that Canada does not have a national school meals program. Instead, students can choose to either bring their lunch from home, purchase from a cafeteria (usually found in secondary schools only) or vending machine, or leave school property to buy food off campus (Woodruff et al., 2010). In terms of school nutrition policies, each province/territory is responsible for developing its own policies to regulate school food (Federal, Provincial, Territorial Group on Nutrition Working Group, 2013; Fung et al., 2013; Massee, Naiman, & Naylor, 2013). In 2005, the Integrated Pan-Canadian Healthy Living Strategy endorsed an initiative: Curbing Childhood Obesity: A Federal, Provincial and Territorial Framework for Action to Promote Healthy Weights (Public Health Agency of Canada, 2011); it encouraged Health Ministers to assist provinces in the development of school nutrition programs and standards (Leo, 2007). Between 2005 and 2008, all Canadian provinces had implemented school food guidelines; the territories had yet to develop guidelines (Federal, Provincial, Territorial Group on Nutrition Working Group, 2013).

Most provinces used a consultative process with key government, health and community stakeholders in the creation of their provincial policy. In some cases, the provincial health or education department initiated or supported policy development (Dietitians of Canada, 2008). All provincial policies set standards for foods available for sale at school and apply to elementary and secondary levels. There is variation in school nutrition criteria/standards throughout Canada, although most policies or guidelines in Canada are similar in terms of categorization of food as either ‘sell/choose most or items of maximum nutritional value’, ‘sell/choose less, or items of moderate nutritional value’, ‘sell least often/not for sale, or items of minimum nutritional value’ (Leo, 2007). Also Eating Well with Canada’s Food Guide serves as a basis for all nutrition policies in Canada (Federal, Provincial, Territorial Group on Nutrition Working Group, 2013).

The following section provides a summary of all provincial school nutrition policies in Canada. For some provinces, specific details of their policy were found. Other provinces had limited information available. The following summaries present the available information on each province's guideline/policy. It is important to note that not all policy components are covered for each province (i.e., if 'pricing suggestions' are not mentioned for one province, it does not mean that there are no pricing suggestions in place; it means that no information was found regarding pricing suggestions for that province). See Table 2.1 for a summary of all available information on each of the provincial policies.

Table 2.1: Summary of Provincial School Nutrition Policies in Canada

School Nutrition Policies by Province	Policy ? Y/N	Mandatory/ Voluntary (i.e. expectation is schools develop their own guidelines)		Who put policy in place?	When was policy released/ mandated?		Guidelines apply to: (1 <sup>o</sup> elementary/ 2 <sup>o</sup> secondary/ public/private)	Guideline Categories	Additional rules/guidelines beyond nutritional guidelines?	Enforce-ment plan?	
		Mandatory	Voluntary	Ministry of:	Released	Mandated				YES	NO
<b>British Columbia</b> "Guidelines for Food & Beverage Sales in BC Schools"	Y	X		Health/ Education	Sept 2008 (updated for Sept 2014)		All food & drink for sale (all public schools)	Sell most/ less/not for sale	Guidelines differ for fresh vs processed		X
<b>Alberta</b> "Alberta Nutrition Guidelines for Children & Youth (ANGCY)"	Y		X	Gov't of Alberta	2008	-	Schools (1 <sup>o</sup> & 2 <sup>o</sup> ) Childcare/ recreation facilities	Choose most/ less/ least often	Pricing suggestions	-	-
<b>Saskatchewan</b> "Healthy Eating, Nutrition & Food Safety Guidelines"	Y		X	Education/ Health & Social Services	2012	-	All food/ drink sold or offered free (1 <sup>o</sup> & 2 <sup>o</sup> )	Choose most/ sometimes/ least often	Pricing suggestions	-	-
<b>Manitoba</b> "Healthy Kids, Healthy Futures All-Party Task Force"	Y		X	Task force called on provincial gov't	2006	06/07 elementary & 07/08 secondary	All food/drinks sold or offered (1 <sup>o</sup> & 2 <sup>o</sup> )	Choose most often/ occasionally/ rarely	Portion suggestions	-	-
<b>Ontario</b> "School Food & Beverage Policy – P/PM 150"	Y	X		Education	2010	2011	All food/ drink offered for sale (1 <sup>o</sup> & 2 <sup>o</sup> )	Sell most/less/no t permitted for sale	Includes portion limits/exemption days for fundraising etc.		X
<b>Quebec</b> "Framework Policy on Healthy Eating/Active Living"	Y		X	L'Education, du Loisir et du Sport	2007	-	-	-	Additional guidelines for general health/ wellness	-	-

<b>Newfoundland &amp; Labrador</b> "School Food Guidelines for Caterers & Administrators"	Y	X		-	2006 (updated 2008)	2008	Food/ drink sold/served in schools (1 <sup>0</sup> & 2 <sup>0</sup> )	Serve most/ moderately	Guidelines for fat, sugar, fibre calcium, iron/ Guidelines for 'mixed dishes'	-	-
<b>New Brunswick</b> "Policy 711: Healthier Food & Nutrition in Public Schools"	Y	X		Education	1991 (updated 2008)	2008	All food/drink sold/served (1 <sup>0</sup> & 2 <sup>0</sup> )	Maximal/ moderate/ minimal nutritional value	Additional rules for: fundraising/ food as reward/ pricing suggestions/ time/space to eat	-	-
<b>Nova Scotia</b> "Food & Nutrition Policy for NS Public Schools"	Y	X		Education/ Health Promotion & Protection	2006/07	2009	All food sold/served (all public schools)	Maximal/ moderate/ minimum nutritional value	Additional rules for: nutrition education/ community involvement/time space to eat/role modeling/local foods/ pricing suggestions	-	-
<b>Prince Edward Island</b> "PEI School Nutrition Policy"	Y	X		Health & Social Services/ Education/PEI Healthy Eating Alliance	2006 (updated policy 2011)	2013	All foods sold/served (1 <sup>0</sup> & consolidated schools)	Served most often/ sometimes/ least often	Additional rules for: access to food/pricing/ promotion & advertising/ time & space to eat	X	
<b>Yukon</b> "Yukon Nutrition Framework"	Y		X	Yukon Public Health/Safety Act (Ministry of Health & Social Services)	2008 (updated 2010)	-	-	-	Suggested development of policies supporting healthy eating in schools & child care centres & competitive pricing of healthy options	-	-
<b>Northwest Territories</b>	N	No policies in place; however, they offer programs such as 'Tastemasters' – a Cooking/ Nutrition Education program. The Food First Foundation supports nutrition programs – snack grants, breakfast/lunch programs in schools & community centres									
<b>Nunavut</b>	N	Ministry of Health & Education created "Nutrition in Nunavut: A Framework for Action" (2007) with the goal of improving school food programs & nutrition education; developing food policies and training for school food programs. Nunavut Food Security Coalition (2014) included goal to create food guidelines by March 2015. No information could be found regarding implementation of 2015 policy.									

#### **2.5.5.1 British Columbia:**

The ‘Guidelines for Food and Beverage Sales in BC Schools’ were published in 2005 by the Ministry of Health and the Ministry of Education (Healthy Families BC, 2013; Masse et al., 2007). Mandatory implementation was required for all public schools by September 2008, however, independent, First Nations and private schools are not mandated to follow guidelines. The guidelines cover all food and drink for sale in schools (including vending machines, stores, cafeterias, bake sales, sporting events, school meal programs). Freshly made food and beverages are either considered as a ‘sell’ or ‘do not sell’ item based on the amount of nutrients, sodium, sugar and fat; while pre-packaged food and beverages fall under ‘sell most’ (at least 50% of choices), ‘sell sometimes’ ( up to 50% of choices), and ‘do not sell’ using the same criteria. These nutrition guidelines have been updated in 2013 to better reflect new evidence in nutrition standards. Schools were expected to implement these new guidelines as of September 2014. While guidelines are mandatory, there is currently no enforcement plan in place (Healthy Families BC, 2013).

#### **2.5.5.2 Alberta:**

The ‘Alberta Nutrition Guidelines for Children and Youth’ (ANGCY) were released by the government in 2008 (Alberta Health and Wellness, 2012; Downs et al., 2012; Quintanilha et al., 2013) with a focus on increasing access to healthy food outside of the home. They were created based on ten guiding principles, some of which include: improving child and youth health and healthy weights, improving child nutrition reflected in Eating Well with Canada’s Food Guide, reflecting diverse populations (First Nations, ethnic and cultural diversity), including implementation strategies that are practical. The guidelines also

include pricing recommendations and suggest the use of local food vendors (M. McKenna, 2013). The guidelines apply beyond the school environment, and include child care settings and recreational facilities. Similar to BC's guidelines, Alberta categorizes food and beverages into 'choose most often', 'choose sometimes' (<3 times per week in school settings) and 'choose least often' (should not be served in childcare or school settings). While these guidelines apply to multiple environments where children and youth are present, they are only voluntary guidelines. They do provide guidelines for policy development and tools for implementation. Since the release of the guidelines, many schools have adopted them (Quintanilha et al., 2013). Olstaad, Downs, Raine, Berry, & McCargar (2011) looked at adoption and implementation of the ANCGY in recreation facilities and found that while many recreation facilities had made improvements to their food and beverages offered, only a small proportion (11%) of the changes were motivated by the ANCGY.

#### **2.5.5.3 Saskatchewan:**

The 'Healthy Eating, Nutrition and Food Safety Guidelines' informed the development of nutrition policies in Saskatchewan schools (Saskatchewan Ministry of Education, 2012). The Ministry of Education, in partnership with the Ministries of Health and Social Services, developed the guide to assist schools in the development of a nutrition policy. The guidelines apply to all food that is offered to students free of charge or sold to students, and can be applied to food environments, such as cafeterias, fundraisers, vending machines, staff rooms, etc (Public Health Nutritionists of Saskatchewan Working Group, 2009). Guidelines are broken down into 'choose most often' foods, 'choose sometimes' and 'choose least often' foods. They also have specific requirements for mixed dishes. They also

suggest that healthier options are priced reasonably (McKenna, 2013). While the Government of Saskatchewan has provided guidelines (as of 2012), it is expected that boards of education work with schools, students, parents, and communities to implement policies that are consistent with their recommended nutrition guidelines (McKenna, 2013; Saskatchewan Ministry of Education, 2012).

#### **2.5.5.4 Manitoba:**

The provincial government's 'Healthy Kids, Healthy Futures All-Party Task Force' put forth recommendations to promote healthy eating for youth. The Task Force called on the provincial government to "require all schools to have a written school food and nutrition policy as part of their school plan" (Healthy Child Manitoba, 2006) (p.3) with full implementation by the 2006/07 year for primary, and 2007/08 year for secondary schools. The 'Manitoba School Nutrition Handbook' was written to help schools develop their nutrition policies. The suggested guidelines apply to all foods that may be sold or provided to students in schools. Standards suggest what foods should be available most often, occasionally and/or rarely, as well as portion recommendations. The handbook also provides a step-by-step resource on how to develop a nutrition policy. Similar to Saskatchewan, the government has provided guidelines, with the expectation that schools will create their own guidelines based on recommendations (Healthy Child Manitoba, 2006).

#### **2.5.5.5 Ontario:**

In 2010, the Ministry of Education released the 'Ontario School Food and Beverage Policy' (P/PM150) which provides standards for food and beverages sold in schools (Ontario

Ministry of Education, 2010). The standards apply to all food and beverages sold in cafeterias, vending machines, tuck shops, catered lunch programs and school events. Standards are broken down into ‘sell most’ (>80% of food choices), ‘sell less’ (<20% food choices) and ‘not permitted for sale’. Standards are based on amounts of nutrients, salt, sugar and fat. Schools are allowed up to 10 special event days where schools are exempt from following the policy. All schools were expected to have implemented P/PM 150 by Sept 2011. While nutrition standards are mandatory, there is currently no enforcement plan in place. P/PM 150 is the focus of this proposal and will be covered in more detail later in the paper.

#### 2.5.5.6 Quebec:

In Sept 2007, the Ministere de l’Education, du Loisir et du Sport put forth ‘Going the Healthy Route at School: Framework Policy on Healthy Eating and Active Living’ (Baril, n.d.) to provide guidelines for schools in developing school nutrition policies. Its ultimate goal is to remove junk food in schools and implement a ‘Healthy Schools’ approach. The policy has nine recommendations based on three themes, including the school environment (healthy eating and active living), education, promotion and communication, and mobilizing partners. While the province has provided guidance documents on nutrition policy development, it is up to school boards in Quebec to implement their own nutrition policies (Central Quebec School Board, 2008; McKenna, 2013).

#### 2.5.5.7 Newfoundland & Labrador:

In 2006, the ‘School Food Guidelines for Caterers and Administrators’ were released as a guideline to assist schools in the development of district school policies (Newfoundland & Labrador, 2009). In 2008, the guidelines were updated based on the revised food guide. They also added specific nutrition criteria for fat, sodium, sugar, fibre, calcium and iron. The new document includes a list of food and beverages that can be sold or served in schools. Similar to all other provinces, the guidelines are based on a ‘serve most’, ‘serve moderately’ system and include specific guidelines for mixed dishes. They apply to food and beverages served in school cafeterias, canteens, and vending machines. The policy is considered mandatory (McKenna, 2013).

#### 2.5.5.8 New Brunswick:

In 1991, New Brunswick adopted the first provincial policy in Canada developed by a Department of Education (McKenna, 2003). Since then, New Brunswick’s policy has gone through a series of revisions leading to ‘Policy 711: Healthier Food and Nutrition in Public Schools’ (Department of Education, 2008). This policy applies to all New Brunswick school districts and public schools and is broken down into three food and beverage categories: ‘maximum nutritional value’, ‘moderate nutritional value’ (served up to maximum of 2X/week) and ‘minimum nutritional value’ (cannot be served), based on nutrients and salt sugar and fat. The standards apply to wherever food is sold and offered at school, such as vending machines, canteens, cafeterias, and hot lunch programs. In addition, items of minimum nutritional value cannot be used for fundraising or food as reward. The policy also includes pricing suggestions, putting maximum and moderate nutritional value items priced

close to cost as possible, as well as requirements for adequate time and space for students to eat in a pleasant environment. The provincial policy sets mandatory, minimum requirements for healthy foods in New Brunswick schools (Department of Education, 2008).

#### **2.5.5.9 Nova Scotia:**

The ‘Food and Nutrition Policy for Nova Scotia Public Schools’ was created by the Nova Scotia Schools Policy Working Group. The policy was drafted with significant consultation with multiple departments, school boards, teachers and dietitians. Teachers, parents, students, food industry, and health professionals were consulted after the first draft was released. The policy provides standards for foods and beverages that can be served and sold in schools along with promoting nutrition education, encouraging community involvement and creating supportive environments for healthy eating in general (Nova Scotia Department of Education and Department of Health Promotion and Protection, 2006). It also addresses time and space where students eat, nutrition role modeling, and local foods and provides directives related to pricing, fundraising, special functions, food as reward, food advertising, and portion sizes. The mandatory policy was phased into schools during the 2006/07 school year with full implementation expected by June 2009. Standards are based on three categories: food and beverage of maximum nutrition, moderate nutrition (can’t provide more than 2X/week, or <30% of choices offered), and minimum nutrition (can be served/sold 1-2X/month for special occasions) (Nova Scotia Department of Education and Department of Health Promotion and Protection, 2006).

#### **2.5.5.10 Prince Edward Island:**

The ‘PEI School Nutrition Policy’ was developed at the district level through collaborations from three school boards, Departments of Health and Social Services, and Education, and the PEI Healthy Eating Alliance. The policy for elementary and consolidated schools (none had a cafeteria) was adopted throughout the province by 2006 (MacLellan, Taylor, & Freeze, 2009; Mullally et al., 2010). Since April 2011, the PEI School Nutrition Policy was adopted by all schools in the three school boards; however, school boards were amalgamated as of 2012 and the development of a single policy is being prepared for the new English Language School Board (PEI Healthy Eating Alliance, 2011). Since May 2013, the new school board passed a motion to adopt all previous policies and regulations (English Language School Board, 2013). While no information on the amalgamated policy could be found, the three school board policies are available, which apply to cafeterias, vending machines, canteens, nutrition programs and fundraising. Each board sets out standards regarding student access to food, pricing, promotion and advertising, time and space to eat, as well as special events, fundraising and nutrition education. They all break down food and beverages into ‘food to serve most often’, ‘foods to serve sometimes’, and ‘foods to serve least often’. Nutrition criteria are based on key nutrients, salt, fat, sugar, and fibre. All boards ban the sale of carbonated soft drinks, fruit juices/drinks that are not 100% juice, sports and energy drinks. Compliance with the policies is monitored by the school districts/school boards (Eastern School District, 2011; PEI Healthy Eating Alliance, 2011; Western School Board of Prince Edward Island, 2005).

#### 2.5.5.11 Yukon:

Finding information on school nutrition policies in the Canadian territories was challenging. The 2007 School Nutrition Policy Report Card (Leo, 2007) indicated that no standards were developed for any of the territories. In 2008, a report from the Dietitians of Canada showed that while no territorial policy existed for Northwest Territories, Yukon and Nunavut were in the process of developing a territorial policy (Dietitians of Canada, 2008). The most recent information on the state of provincial school nutrition policies (McKenna, 2013) does not mention policies in northern territories. Below is the information that could be found for school nutrition in the territories.

A School Nutrition Policy does exist through the Yukon Public Health and Safety Act – Eating and Drinking Places Regulations in 2008. It outlines principles for the Department of Education including: i) the school community taking responsibility for promoting nutrition and healthy choices, ii) the inclusion of First Nation culture, heritage and language in schools, and iii) food safety regulations for foods served in schools. Under the first principle, it is suggested that schools should “develop their own school based nutrition policy and guidelines” (Yukon Education, 2008). It also suggests that schools should follow Eating Well with Canada’s Food Guide – First Nations, Inuit and Metis guidelines as well as the Council Yukon First Nation’s Guide ‘Food from the Land: Traditional Yukon Food’. More recently, in 2010, the Yukon Nutrition Framework suggested the development of policies and guidelines supporting healthy eating in schools and child care centres through healthy fundraising, healthier options in school cafeterias and vending machines, as well as competitive pricing of healthy options (Ministry of Health and Social Services, 2010).

#### 2.5.5.12 Northwest Territories:

The Northwest Territories do not have a nutrition policy in place (Adrien Amirault, Assistant Executive director of NWT Teachers' Association, personal communication, Aug 28<sup>th</sup>, 2014); however, they do focus on school nutrition through programs such as 'TasteMakers' a cooking and nutrition education program in schools since 2012, that ensures basic nutrition education for all students in the Northwest Territories. The Food First Foundation also supports nutrition programs focusing on snack grants and breakfast and lunch programs in schools and community centres (Food First Foundation, n.d.).

#### 2.5.5.13 Nunavut:

In Nunavut, the Ministry of Health and Social Services published, "Nutrition in Nunavut: A Framework for Action" in 2007; its document outlined a number of goals, one of which was "to improve the nutritional status of infants, preschoolers and school-aged children" by improving school food programs and nutrition education (Government of Nunavut Department of Health and Social Services, 2007) (p.13). It also set a goal of developing policies and training for school food programs that includes healthy menu choices by October 2008 (Government of Nunavut Department of Health and Social Services, 2007). A more recent document by the Nunavut Food Security Coalition (2014) includes a goal to create school food guidelines for all Nunavut schools. It has specified that an interdepartmental working group will be established by March 2015 to oversee the development of school food guidelines (Nunavut Food Security Coalition, 2014).

There are other school nutrition initiatives, common to all territories, one example is the 'Drop the Pop' program that was established in 2006. It encourages students in schools to

make healthy beverage choices during nutrition month. This program is run annually across all three territories (Ministry of Health and Social Services, 2010). The focus of school food policy in the Canadian territories appears to revolve around school nutrition programs; however, there appears to be a shift in focus leading to the development of school nutrition policies in the upcoming years.

### **2.5.6 Next Steps for School Food Policies in Canada**

As seen above, all provinces have nutrition policies in place, and all territories have an action plan to enhance school nutrition and/or develop school nutrition policies. In 2013, the Federal, Provincial, Territorial Nutrition Working Group created a document with the overall goal of helping to improve the consistency of food and beverage policies across Canada. The workgroup recognized the evolving process with respect to the creation and revision of nutrition policies. As a result, the document was created to support provinces and territories in either developing and/or enhancing their school nutrition policies and to assist food industry in creating products that comply with new nutrient criteria. It is clear that governments across the country have endorsed the importance of the nutrition policy component of the comprehensive school health approach.

## **2.6 Policy Implementation & Current Research on School Food Policy:**

The next section will introduce the field of policy implementation research, as well as summarize current research on school food policy including i) whether policy implementation is happening in schools, ii) health outcomes of school nutrition policies, and iii) factors affecting the implementation of school food policies.

### **2.6.1 Policy Implementation Research:**

According to Nilsen (2015), implementation “was borne out of a desire to address challenges associated with the use of research to achieve more evidence-based practice (EBP) in health care and other areas of professional practice” (p. 53); therefore, the definition of implementation science is “the scientific study of methods to promote the systematic uptake of research findings and other EBPs into routine practice to improve the quality and effectiveness of health services and care” (Nilsen, 2015, p. 54).

#### **2.6.1.1 History of implementation research:**

Since the 1970’s, researchers have recognized the importance of policy implementation science in understanding why and how interventions and policies are put into practice and how the process of their implementation can impact their success (Nilsen, Stahl, Roback, & Cairney, 2013). In its early stages, policy implementation was focused more so on understanding implementation failure and the factors that led to unsuccessful policies. By the 1980’s, the field had moved away from a ‘success’ or ‘fail’ system, and more effort was put into better understanding the variables that could impact implementation (Nilsen et al., 2013). In its early stages, implementation research was viewed from two differing perspectives: the top-down and the bottom-up approach. Bottom-up researchers recognized the importance of contextual factors and the critical role of individuals at the local level where implementation occurs; whereas, top-down researchers focused more on the contents of the intervention itself and the analytic process in which it is implemented. As such, the key aspects of implementation from a top-down perspective were to make clear policy goals with a clear implementation plan with limited number of actors. Meanwhile, bottom-up

researchers studied what factors limited the organizations' ability to follow the implementation plan, thereby looking more carefully into the process of implementation at the local level. By the late 1980's, it was recognized that both approaches had merit and a convergence of these perspectives were critical to successful implementation (Nilsen, et al., 2013).

#### **2.6.1.2 Development of models, theories & frameworks:**

As the field of implementation science evolved, numerous models, theories and frameworks were developed from varying fields and disciplines, including public/health administration, organizational change, change management, sociology, psychology, and political science (Nilsen, 2015; Nilsen et al., 2013; Durlak & DuPre, 2008; Kotter & Schlesinger, 2008; Antwi & Kale, 2014). While some models, theories and frameworks were designed specifically for the purposes of better understanding implementation processes, mechanisms, and outcomes, in other cases, other existing theories that did not originate from implementation science have been incorporated or applied to new implementation models, theories, and frameworks (such as, Social Cognitive Theory, Complexity Theory, Theory of Diffusion, Theory of Planned Behaviour) (Nilsen, 2015; Bandura, 1977; Ajzen, 1988; Rogers, 2001; Tremblay & Richard, 2011).

These theories, models and frameworks generally sought to provide insight into the mechanisms of policy implementation (at various stages of implementation), and to identify factors that either facilitate or impede the process of implementation which ultimately affect implementation outcomes (Nilsen, 2015; Nassau, Singh, van Mechelen, Brug, Chinapaw, 2014; Durlak & DuPre, 2008; Peters, Adam, Alonge, Akua Agyepong, & Tran, 2013).

## **2.6.2 Is Nutrition Policy Implementation Happening in Schools?**

Few Canadian studies have explored food school policy uptake. Those available suggest that the extent of policy implementation varies. A PEI study conducted by Taylor et al. (2011) explored principals' perceptions of school nutrition policy implementation. While the majority of principals (87%) reported that they were implementing policy components 'always' or 'most of the time' results showed prohibited foods were still being sold, and not all policy components were addressed. Only about one third of principals reported student involvement in planning food choices, which was a component specified within the policy. In terms of the lunch program, 74% of foods met the guidelines, although 53% of schools offered 20% or more of food items that were not allowed. So while policy implementation appeared to be happening, some policy components seem to be implemented more than others (Taylor et al., 2011). Rideout and colleagues (2007) found similar results in their BC study assessing the extent of policy implementation. In 56 percent of schools, at least one of seven specific nutrition policies was in place (including types of foods sold in vending machines, cafeterias, school stores; types of school food for special events and trips, fundraising, competitive pricing, food as reward, providing adequate time and space to eat) and another 9.4% were in the process of developing at least one of the policies. However, they found that the full range of policies was only under development in 10-15 percent of the schools. Morin and colleagues (2012) looked at changes in food and beverages being offered after the introduction of a school nutrition policy. They found overall improvements in the items offered as a result of policy implementation. Pre and post implementation data showed that unhealthy items (fried foods, and soft drinks) were no longer available in schools after

policy implementation, however, some foods, such as cold cuts and desserts were still offered and were of concern. Finally, Olstaad et al (2011) conducted an interesting study on the adoption of voluntary nutrition guidelines in recreation facilities. Results showed that only half of recreation facility respondents had heard of the policy, 14% reported adopting the policy and 6% had implemented it one year after the release of guidelines. Their findings imply that voluntary guidelines may not be sufficient in changing the food environment.

Studies outside of Canada confirm that partial policy implementation is the norm. A study in California assessed policy implementation, and found that while there were high levels of implementation for school meal programs (92%), and a la carte items (72%), policy implementation was low for fundraising, class parties and school stores (33%), etc. (Caparosa et al., 2013). In addition, an Australian study found that approximately 60% of schools had a policy in place, with variation in what policy components were being implemented (Chellappah, Tonkin, Gregg, De Courten, & Reid, 2012; Worsley, 2006).

### **2.6.3 Diet/Health Outcomes of School Nutrition Policies**

When assessing overall health effects of school nutrition policies, two main outcomes are often examined: impact on student diet and impact on BMI or weight status. Generally there is support for nutrition policies having a positive effect on eating behaviour, but less certainty about whether this translates to healthier weights. A literature review by Jaime and Lock (2009) looked at the effectiveness of school food policies on student dietary intake and decreasing overweight and obesity. They concluded that while some studies had been effective in improving student diets, there is little evidence supporting their impact on student BMI (Jaime & Lock, 2009). In addition, a review conducted by McKenna (2010) also found

that when policies are paired with nutrition education, especially as part of a multi-component intervention, student eating habits can be positively affected, while reduction of BMI is less likely.

Subsequent research confirms that school nutrition policies can have positive student dietary effects (Adamson et al., 2013; Coleman et al., 2012; Downs et al., 2012; Masse et al., 2013; Mullally et al., 2010). For example, a PEI study examining pre/post policy implementation in elementary schools, found that student diets improved overall after introduction of a province-wide nutrition policy. Specifically, they found a decrease in consumption of low nutrient dense foods, like chips, candy and pop. The study also found modest improvements in fruit and vegetable and milk intakes (Mullally et al., 2010). Adamson (2013) examined evaluations of school nutrition policies in the UK, and concluded that school nutrition policies led to improvements in students' overall diet quality and nutrient intake. A randomized control trial, called the Healthy Options for Nutrition Environments in Schools (Healthy ONES) randomly assigned eight school districts to control and intervention groups (intervention schools eliminated unhealthy foods on campus, promoted nutrition services and modelling of healthy eating amongst school staff) (Coleman et al., 2012). It examined the impact of the intervention on the presence of outside unhealthy food/beverages campus. Results showed that the presence of outside unhealthy food and drink decreased over time, while presence increased in control schools (Coleman et al., 2012).

Other studies examining policy effects on nutritional outcomes resulted in mixed findings. For example, a study conducted in Texas assessed impact of school food changes

(elimination of junk foods and sugar sweetened beverages from snack bars, and elimination of vending machines from cafeterias) on student lunch consumption over two years (Cullen et al., 2006). Overall, they found that sugar sweetened beverage consumption declined, while milk, calcium, vitamin A, saturated fat, and sodium increased. They also reported a shift in food source post-policy implementation; for example, while snack bar purchases for chips declined, the number of vending machines doubled during the study period and consumption of chips and candy from vending machines actually increased. These results suggest that unless changes are made to whole school environments, positive effects on student nutrition may be limited (Cullen et al., 2006). The work of Fung et al (2013) examined changes in students' dietary intake pre (2003) and post-policy (2011) implementation in Nova Scotia grade five students. Results showed that post-implementation, students reported consuming more milk products; however, there were no statistically significant differences in consumption of fruit and vegetables (Fung et al., 2013).

Looking more closely at policy effects on BMI and weight status, literature reviews and individual studies generally report limited evidence on impacts of policy on BMI (Coleman et al., 2012; Fung et al., 2013; Jaime & Lock, 2009; Mendelson, 2007), however, a few studies have reported positive effects. Foster and colleagues (2008) assessed the impact of a multi-component school nutrition policy on prevention of overweight and obesity. They followed US children (n=1349) in grades four to six over two years. Participating schools (n=10) were assigned to either the intervention group (involving school assessments, nutrition education, nutrition policy, social marketing and parent outreach) or the control group. After two years, 50% fewer children became overweight in intervention schools

(7.5%) compared to control schools (14.9%) (Foster et al., 2008). While these results appear promising, the study sample only included ten schools with over 50 percent of students utilizing free or reduced price school meals. Additionally, they relied on self-reported measures of diet and physical activity which may have affected results. Also, a multivariate analysis by Coffield et al (2011) estimated the effects of district level wellness policies on odds of overweight and obesity among adolescents using a Utah population database. It found that the presence of multiple components in a district policy was associated with lower odds of obesity. Specifically, for every additional component in a wellness policy, there were lower odds of overweight, obesity and severe obesity, by 3.2%, 2.5%, and 3.4%, respectively (Coffield et al., 2011). Both studies that found positive effects on BMI and obesity, involved multi-component interventions, which suggests the importance of comprehensive school health approaches in achieving positive health outcomes for students.

In summary, while most evidence supports the positive impact of school food policy on student dietary outcomes, results are still inconclusive for impact on BMI and overweight and obesity. More research is needed examining the health impact of school nutrition policies, with a focus on longitudinal studies to examine long term effects of policy implementation and potential changes in health outcomes.

#### **2.6.4 Factors Affecting School Nutrition Policy Implementation: Facilitators and Barriers**

Many studies have been conducted examining factors affecting the school nutrition policy implementation process. Multiple facilitating factors and barriers to policy

implementation have been identified. They are summarized in Table 2.2 and are described in detail below.

Table 2.2: Facilitators and Barriers to School Nutrition Policy Implementation Identified in the Literature

Facilitators	Barriers
<ul style="list-style-type: none"> <li>• Stakeholder involvement and support</li> <li>• Presence of a champion or committee to champion the policy</li> <li>• Personal beliefs/interests and responsibility for students' overall health on the part of school stakeholders</li> <li>• Availability of tools, training and resources</li> <li>• Availability of proper facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of stakeholder involvement and support</li> <li>• Fear of revenue loss &amp; fundraising concerns</li> <li>• High levels of competitive foods (outside and within schools)</li> <li>• Restrictive nature of the policy itself</li> <li>• Difficulties with policy interpretation</li> <li>• Lack of tools, training and resources</li> <li>• Lack of proper facilities</li> </ul>

#### 2.6.4.1 Facilitators:

The most common facilitator for policy implementation reported by researchers is *stakeholder involvement and support* (Agron, Berends, Ellis, & Gonzalez, 2010; MacLellan et al., 2009; MacLellan, Holland, Taylor, McKenna, & Hernandez, 2010; McKenna, 2010; Olstaad et al., 2011; Pan Canadian Joint Consortium for School Health, 2010; Pettigrew, Pescud, & Donovan, 2012b; Quintanilha et al., 2013; Rideout et al., 2007; Taylor et al., 2011). The Pan Canadian Joint Consortium for School Health emphasizes the role of stakeholder engagement throughout the entire policy process including identifying needs for policy, policy development, adoption, implementation and evaluation (Pan Canadian Joint Consortium for School Health, 2010). Identified stakeholders include school personnel (school administrators, superintendents, principals, teachers, food service staff), students and families, health professionals (dietitians, nutritionists, public health nurses, etc), private

sector (food industry, food service providers) and government organizations. Involvement from all stakeholders is also an essential component of implementing comprehensive school health strategies (McKenna, 2010).

Many studies assessing the implementation of policies discuss the importance of key stakeholder support and involvement. For example, Quintanilha et al. (2013) conducted a series of case studies looking at factors influencing early adoption of Alberta's voluntary school nutrition guidelines and found that school principal and superintendent support of the guidelines was a key factor in policy uptake. They also found that parental support helped to facilitate implementation of guidelines. Other studies have emphasized the importance of parent and community support; Taylor et al. (2011) interviewed principals about their beliefs relating to enablers of policy implementation; principals felt that community support as well as parent volunteers were key factors in their successful policy implementation. Similarly, MacLellan and colleagues explored parent and student perceptions regarding facilitators to policy implementation, and identified parent and student support for healthy eating as the primary factor facilitating policy implementation. They described the importance of having parent volunteers for school lunch preparation, and described how peer influence can assist in supporting acceptance of new foods that result from policy implementation (MacLellan, Holland, Taylor, McKenna, & Hernandez, 2010).

While support from stakeholders is important for policy implementation, the presence of a champion was also identified as a key factor in the potential success of school nutrition policies (Olstaad et al., 2011; Quintanilha et al., 2013). If a champion is not present, having a formal group or committee responsible for school nutrition policies and initiatives has also

been identified as a key facilitator (Rideout et al., 2007). In fact, Rideout et al. (2007) and Veugelers and Fitzgerald (2005a) found that the schools that had a formal committee or group responsible for school nutrition were more likely to have nutrition policies in place. Collaboration with outside agencies was also seen as helpful in supporting positive change through school nutrition (Agron et al., 2010).

Another facilitator that is tied to support for policy implementation, is personal beliefs and interests. Quintanilla (2013) found that those health champions or supporters of school nutrition policy often had a personal interest in school nutrition which encouraged their involvement in policy implementation. When there was a strong belief in supporting healthy eating in students, implementation of policies was likely to take place. Similarly, a study by Massee and colleagues (Massee et al., 2013) found that adoption of guidelines were facilitated by perceptions that policies were needed in schools and that participants felt that schools had a social responsibility to support healthy eating for their students. Pettigrew's Australian study found that interview participants felt that offering only healthy food options in schools presented an opportunity to teach students about nutrition (Pettigrew et al., 2012b).

Training and resources were found to be another facilitating factor. A study by Agron and colleagues (2010) found that school wellness committees and school board members found training tools helpful, including examples of model policies and standards, and felt that training facilitated adoption of school wellness policies. Massee et al. (2013) found that provincial resources and supports, like brand name food lists, were extremely helpful in the adoption of school nutrition policies. In addition, presence of proper kitchen facilities was considered facilitative along with easy access to food suppliers (Taylor et al., 2011).

#### **2.6.4.2 Barriers:**

While a number of factors facilitate school nutrition policy implementation, a number of barriers have been identified as well. As much as stakeholder involvement and support were identified facilitators of policy implementation, lack of stakeholder involvement and support can be a detriment (Downs et al., 2012; MacLellan et al., 2010; Masse et al., 2013; Olstaad et al., 2011; Quintanilha et al., 2013). Quintanilha et al. (2013) found that often parents, families or community volunteers did not support adoption of guidelines. Similarly, when the Department of Education and the Western Australian School Canteen Association initially introduced their nutrition policy, they reported an estimated 2000 complaints from parents as well as other stakeholders (Pettigrew et al., 2012b). Downs et al (2012) also found that parents often were resistant to change. A study by MacLennan and colleagues (2010) reported a lack of communication with parents and students regarding changes to school food and introduction of policies as a barrier. A few studies suggest that issues regarding responsibility and the role of schools could be the basis of lack of stakeholder support. For example, some parents felt that student nutrition was not the schools responsibility and that they were overstepping boundaries by limiting food choices for students (MacLellan et al., 2010; Masse et al., 2013; Worsley, 2006); this is an especially sensitive subject for families with lower incomes, where affordability of healthier options is a significant concern.

The most commonly identified barrier to school nutrition policy implementation is concern for loss of profits for cafeterias, and schools themselves (Bergman et al., 2010; Downs et al., 2012; Masse et al., 2013; McKenna, 2003; Taylor et al., 2011; Vine & Elliott, 2013; Wharton et al., 2008). Stakeholders worried that the higher cost of healthy versus less

healthy foods for sale would lead to revenue losses and reduced funds for extracurricular activities and other school programs (Massee et al., 2013; McKenna, 2003) or loss of cafeterias altogether (Vine & Elliott, 2013). There were also concerns regarding loss of revenue from fundraising, as fundraising in schools tends to revolve around foods prohibited by policies (bake sales, chocolate bar sales, etc) (Massee et al., 2013; Taylor et al., 2011). Increase in food price for healthier options is especially of concern for schools with high low-income populations (Massee et al., 2013; Vine & Elliott, 2013). The 2013 Auditor General's Report of Ontario, found that after the introduction of their School Food and Beverage Policy (P/PM 150), "cafeteria sales at the three boards visited dropped between 25% and 45% and vending machine revenues dropped between 70% and 85%" (Lysyk, 2013) p.105

While loss of profits remains one of the largest perceived barriers to policy implementation, research shows that some schools do not necessarily lose profits after implementation of a nutrition policy. For example, in one study in San Francisco, Wojcicki and colleagues (2006) found that after the introduction of school district food standards which eliminated unhealthy foods, snacks and beverages in cafeterias, vending and snack bars for all public elementary, middle and high schools, there were no changes in revenue and in some cases, revenues even increased. Other studies in the US have found similar results (National Center for Chronic Disease Prevention and Health Promotion, n.d.; Wharton et al., 2008). Authors speculate that the increase in revenue, however, is most likely due to higher participation in the NSLP (Wharton et al., 2008). Other studies have found that using

promotion strategies and price reductions for healthier food options can sustain revenue for schools (French et al., 1997; French et al., 2001).

Fears of revenue losses within schools are also exacerbated by increased levels of outside competitive foods. The proximity of schools to fast food outlets was a major concern for schools (Downs et al., 2012; Vine & Elliott, 2013). Masse et al. (2013) reported more students leaving school grounds to purchase food after the introduction of a nutrition policy. They also reported students selling unhealthy food and beverages in the schools themselves. Therefore, competition not only exists outside the school, but within the school boundaries as well.

Other identified barriers to policy implementation include the restrictive nature of policies. Some stakeholders felt that policies restricted the variety of foods available and that there was limited availability of policy-allowed foods (Taylor et al., 2011; Vine & Elliott, 2013). Taylor et al (2011) found that principals were concerned about finding good quality products at decent prices and challenges with finding compliant suppliers. A UK study reported difficulties finding balance between what was practical to offer and the objectives of the policy (Moore et al., 2010).

Policy interpretation was also a concern. Stakeholders expressed concerns for lack of clarity regarding interpretation of policies, for example, whether the policy was a mandatory standard or a guideline, or what contexts the policy applied to (vending, cafeterias, foods brought in or given away, etc.) (Masse et al., 2013; McKenna, 2003).

While availability of tools and resources was considered an enabler of policy implementation, the *lack* of tools, resources and time was also found to be a barrier.

Stakeholders who are responsible for policy development or implementation need adequate tools and resource support (Agron et al., 2010; Downs et al., 2012). Specifically, parents who were interviewed in a study by Downs et al. (2012) felt that lack of proper school kitchen facilities and food preparation facilities were barriers for providing students with greater food variety. Lack of facilities for schools without cafeterias also presents numerous challenges for offering healthy food options (Taylor et al., 2011). Stakeholders also felt that schools had multiple competing interests and insufficient time to address them all (MacLellan et al., 2010; Masse et al., 2013; Moore et al., 2010); this was seen as another barrier to policy implementation.

It is clear that many facilitators and barriers exist relating to implementation of nutrition policies. It is therefore important to begin to develop best practices for policy implementation to assist schools in developing, implementing and evaluating school nutrition policies. The following section summarizes a few ‘best practices’ that have been suggested based on current evidence.

## **2.6.5 Recommendations for Best Practices in the Literature**

Researchers studying/evaluating school nutrition policies have started to make recommendations regarding important policy components and recommendations for successful policy implementation. Some recommendations for policy components include, firmer restrictions regarding access to fast food, perhaps not allowing students to bring in unhealthy items or having policies in place that limit students ability to leave campus (Woodruff et al., 2010). Other suggestions include reducing prices of healthy items, while increasing the price of less healthy items (Olstaad et al., 2011) and regulating food marketing

to children (Jaime & Lock, 2009). Many researchers discussed the need for policies to link directly to education and curriculum or other health initiatives that may already be in place in schools (school gardens, nutrition programs, etc) (Adamson et al., 2013; Rideout et al., 2007; Vine & Elliott, 2014; Woodruff et al., 2010). A common message heard from researchers examining school food policies, was that in order for school food policies to be effective, the environments surrounding schools must be addressed. As described earlier in the literature review, many environmental influences exist that contribute to unhealthy diets, overweight and obesity. Ignoring the broader context of unhealthy food environments will challenge the success of school food policies (He et al., 2012; Jaime & Lock, 2009; Olstaad et al., 2011). He et al. (2012) highlighted the need for governments to develop zoning policies restricting fast food outlets being built near schools.

Two recommendations common to both policy components and implementation of policies, are 1) the need for mandatory policies and 2) the need for specific monitoring plans to be in place. Without mandatory policies and regulated monitoring/inspection, implementation of school food policies may never fully take place, nor will policies be sustained (Adamson et al., 2013; Masse et al., 2013).

In terms of recommendations for successful implementation, the need for comprehensive/multi-faceted programs is important. Researchers describe that successful policies will use a whole-school approach including involvement of multiple stakeholders (Adamson et al., 2013; Mendelson, 2007; Quintanilha et al., 2013; Rideout et al., 2007). Involvement and engagement of stakeholders (students, parents, school staff, community, etc.) was considered essential for successful policy implementation; researchers describe the

importance of stakeholder engagement throughout the entire policy development and implementation process (Adamson et al., 2013; Downs et al., 2012; Mendelson, 2007; Vine & Elliott, 2013). Researchers have recommended development of specific committees or formal groups to be responsible for school nutrition policies (Adamson et al., 2013; Rideout et al., 2007). Downs et al. (2012) suggest that governments/school boards should employ a health promotion facilitator who can act as a champion for nutrition and other health initiatives within the school.

Researchers also recommend building strong partnerships to help support policy implementation. Suggested partners include, dietitians, other health professionals, school cooks, food service providers, and food industry (Ashe & Sonnino, 2013; MacLellan et al., 2009; MacLellan et al., 2010; Mendelson, 2007; Moore et al., 2010; Taylor, McKenna, & Butler, 2010). One of the common barriers addressed above was lack of funding, resources and supports for policy implementation; therefore, researchers are recommending that school nutrition policies be paired with access to sufficient financial and human resource support. Core funding from government to support policies was specifically recommended (Adamson et al., 2013; Olstaad et al., 2011; Vine & Elliott, 2013). Finally, researchers addressed the need for more evaluations to be done assessing the successes and challenges of implementing these policies in real-life settings (Adamson et al., 2013; Wojcicki & Heyman, 2006).

## **2.7 Conclusion**

The growing concern over rising rates of child and youth obesity, has led to an increase in the development and implementation of school nutrition policies worldwide. While policies tend to vary in terms of: nutrition criteria, application (cafeterias, vending

machines, fundraising, etc), and strictness (mandatory vs voluntary), research is beginning to emerge in terms of potential health effects on students and common factors that affect successful policy implementation in schools. While some ‘best practices’/recommendations have been identified, more information is needed about what works, and specifically, in what context.

## **Chapter 3**

### **STUDY RATIONALE, OBJECTIVES, RESEARCH QUESTIONS & THEORY & FRAMEWORK:**

#### **3.1 Study Rationale**

In 2008, the Medical Research Council of Health Services and Public Health Research Board released a revised framework for developing and evaluating complex health interventions (Craig et al., 2008); the framework suggests that complex interventions (which include several interacting components) require complex evaluations. They highlight the need to assess practical effectiveness, specifically looking at “how [the intervention] varies among recipients, between sites, over time, and the causes of that variation” (2008); they also describe the need to assess *how* the intervention works within a specific context. Another aspect of complex interventions is the concept of normalisation, where an intervention becomes embedded into routine practice (Murray et al., 2010). Murray (2010) suggests that qualitative methods can help a researcher better understand the process involved in implementing the intervention from those who experience it first-hand. These concepts surrounding complex interventions highlight the importance of understanding how an intervention works in the ‘real world’ and understanding how implementation of a complex intervention can differ from one context to another.

This qualitative evaluation will, therefore, provide a comprehensive look at the views of multiple stakeholders (including students, parents, school stakeholders, food service providers) within a large, urban, diverse region in Ontario, who have been affected by or are involved in, the implementation of the Ontario School Food and Beverage Policy. The results

of this study will therefore: i) contribute to the existing literature on school nutrition policies (including two evaluations of Ontario's P/PM 150 that have emerged since this study's initiation) (Lysyk, 2013; Vine & Elliott, 2013); ii) provide an in-depth exploration of multi-stakeholder experiences in the implementation of P/PM 150 within a new context (large, urban, diverse Region in Ontario), iii) describe how the experiences of policy implementation in this region are similar or different from other regions, and iv) analyze results in relation to the constructs described in Damschroder's Consolidated Framework for Implementation Research (2009) (described in section 3.5).

### **3.2 Objectives**

Based on perspectives of key stakeholders [including students, parents, school stakeholders (principals, vice-principals, teachers, school staff) and food service providers], the objectives are to:

- i) Describe students' thoughts about school food and explore differences in typical eating behaviours of elementary versus secondary school students
- ii) Identify factors that influence student food behaviours, and decisions regarding food availability in Peel Region schools
- iii) Determine the knowledge and awareness of the Ontario School Food & Beverage Policy (P/PM 150) by stakeholders (students and parents) within Peel Region schools.
- iv) Describe the process of implementing P/PM 150 in Region of Peel schools (specific to school stakeholders and food service providers)

- v) Understand perceptions of school staff, food service providers' and the food industry informants of the successes and challenges (enablers/barriers) associated with implementing P/PM 150.
- vi) Describe the perceived outcomes and impacts of P/PM 150 on school food, student food behaviours, and school food environments.
- vii) Analyze results in relation to domains and constructs described in Damschroder's (2009) Consolidated Framework for Implementation Research

Before the specific research methodology and methods for analysis are described, the theory and framework underpinning this thesis will be described.

### **3.3 Theory & Framework**

#### **3.3.1 Bronfenbrenner's Ecological Systems Theory**

The overarching theory that guided this research was Bronfenbrenner's Ecological Systems Theory (1994) which suggests that various systems interact to impact a child's development and their behaviour. Multiple systems affect a child's environment, including the microsystem which includes a child's immediate surroundings (i.e. friends, family, school, community), the mesosystem which describes the relationships within the microsystem (i.e. teacher-parent relationship), the exosystem in which the child does not have direct contact but still affects them in some way (parents' workplace), and finally the outer layer – the macrosystem, which includes culture, values, and laws. All of these systems interact to affect a child's development and behaviour. Multiple factors were identified in the literature review that can have an impact on student health and dietary behaviours. Therefore,

the first two research objectives – i) *describe students' thoughts about school food and explore differences in typical eating behaviours of elementary versus secondary school students* and ii) *identify factors that influence student food behaviours, and decisions regarding food availability in Peel Region schools* were used to better understand the contexts and factors that affect student dietary behaviours across these multiple systems.

The rest of the objectives of the study specifically relate to P/PM 150 and its implementation. While Bronfenbrenner's theory applies to policies and laws that determine food environments, an additional framework was found that uses a similar ecological approach, but that applied specifically to program/policy implementation. This framework, the Consolidated Framework for Implementation Research (CFIR), was used to analyze results relating to objectives iii – vi , as explained in objective vii. They are presented in the discussion section of this thesis.

### **3.3.2 Damschroder's Consolidated Framework for Implementation Research**

Many theories exist regarding effective implementation of complex health interventions, as described in the literature review. Damschroder et al. (2009) have created a comprehensive framework that addresses common constructs from existing theories on implementation science. The framework proposed by Damschroder and colleagues (2009) was based on a systematic review of diffusion of innovations research by Greenhalgh et al. (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). This framework was chosen to frame the discussion of this thesis, because: i) it is a comprehensive framework of many existing implementation theories and frameworks, ii) it not only addresses the many determinants affecting implementation (including facilitators and barriers), but also the

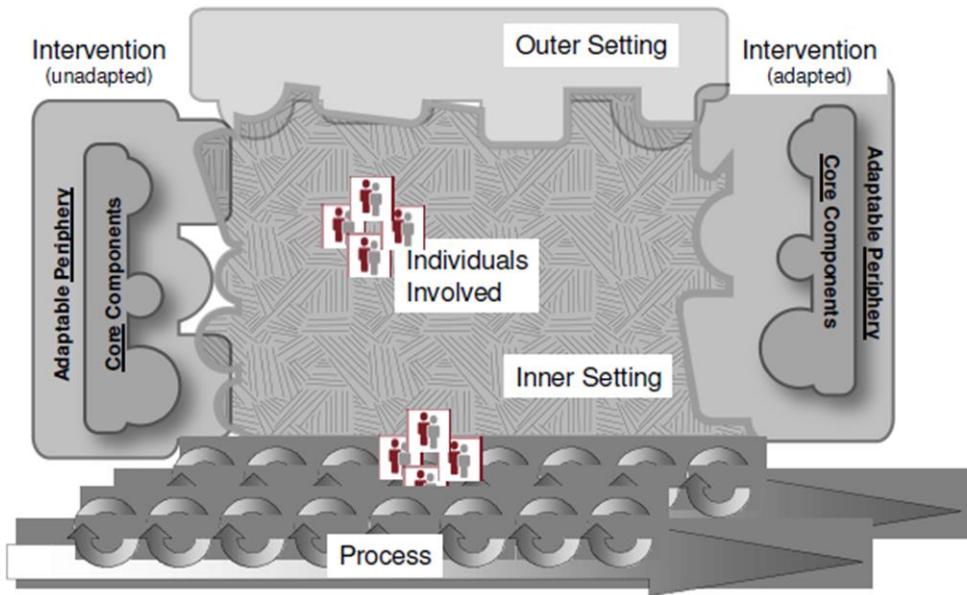
process of implementation and iii) it addresses the multiple environments/settings that can impact implementation (i.e. multiple contexts).

Damschroder's framework, the 'Consolidated Framework for Implementation Research' (CFIR), encompasses five main domains: the intervention; inner setting; outer setting; the individuals involved; and, the process by which implementation is accomplished (Damschroder et al., 2009). Within these domains, multiple constructs exist which are thought to influence implementation, either in a positive or negative way. The theory recognizes that implementation [defined as "the constellation of processes intended to get an intervention into use within an organization" (Damschroder, et al. 2009, p. 3)] is a process that is subject to the context and the setting in which implementation takes place. In Damschroder's framework, 'context' refers to the broad range of circumstances, characteristics and factors that can impact implementation while the 'setting' refers to the environmental characteristics where implementation takes place. In the overall thesis, however, 'context' refers to the circumstances, characteristics and factors that influence implementation, which includes environments such as home, school, and community (or 'settings' as referred to by Damschroder). See Figure 3.1 for a visual representation of the CFIR framework.

This framework fits well with this qualitative study, as multiple factors and contexts are known to affect the implementation of policies within schools (both within and outside of the school). Also, as described earlier in the literature review, many factors affect an individuals' health and health behaviour ranging from behavioural factors to social, cultural

and environmental factors, and the CFIR takes these factors into account in the context of policy implementation.

Figure 3.1: Visual Representation of the Major Domains of the CFIR



This figure illustrates the five domains and how they interact to affect implementation. For the purposes of this research, the ‘inner setting’ is defined as an individual school (including a school’s cafeteria). The outer setting in this study context, includes external environments (home, and community), as well as the outside food industry (food providers and suppliers). The figure shows two types of interventions (adaptable and unadaptable interventions); according to Damschroder, adaptable interventions have a set of core components plus adaptable components to help ease the transition of implementation into new settings. Unadaptable interventions contain core components, but lack adaptable

components and therefore do not fit well to the inner setting in which the intervention is being implemented.

The following summary of each domain found in the CFIR discuss the implementation of research within an ‘organization’. For the context of this research, the ‘organization’ will refer to the individual school environment.

### **3.3.3 First Domain: Intervention Characteristics**

The first domain, '*Intervention Characteristics*' recognizes that a 'one size, may not fit all'. The constructs that make up this domain include: *Intervention Source* – whether an intervention was internally or externally developed; *Evidence Strength and Quality* – perceptions of the quality and validity of evidence supporting the intervention and its suggested outcomes; *Relative Advantage* –perceptions of the advantage of the current intervention in comparison to other options; *Adaptability* –whether the intervention can be adapted to fit the needs of the particular setting (while understanding that interventions can include core – or essential- components OR adaptable periphery components which can be adapted for different settings); *Trialability* – whether or not an intervention can be tested first at a smaller scale and/or reversed after a trial; *Complexity* –perceived difficulty in implementing the intervention; *Design Quality and Packaging* – perceptions of how the intervention is organized and presented; and finally *Cost* –the cost of the intervention and any other costs associated with the intervention.

### **3.3.4 Second & Third Domain: Outer and Inner Setting**

The next two domains are broken down into Outer and Inner Setting. Outer setting usually involves the economic, political and social contexts surrounding an organization; while the inner setting is composed of structural, political and cultural contexts in the settings in which implementation will occur. These two domains can overlap. The constructs within the outer setting include: *Patient needs and resources* – whether the needs of the patient (interpreted as *students* for the current research), including facilitators and barriers associated with those needs are known by the organization and prioritized; *Cosmopolitanism* – the degree to which an organization is networked or has a relationship with other external organizations; *Peer Pressure* – describing the pressure an organization feels to implement the intervention; and *External Policies and Incentives* – whether other policies/regulations/mandates exist in addition to the intervention.

Constructs included in the Inner Setting are: *Structural Characteristics* – characteristics of a particular organization including social architecture, age, maturity, and size of an organization; *Networks and Communications* – the nature and quality of social networks (between individuals, units, services, etc) and the extent of formal/informal communication within an organization; *Culture* – includes the norms and values of an organization; *Implementation Climate* – the perceived capacity for an organization to change, the organization's readiness for implementation, and the extent to which the intervention will be supported and expected by the organization. The implementation climate construct also includes six sub-constructs which address perceptions of stakeholders perceiving the need for change, the compatibility of the intervention to stakeholders' values and norms, their

perceptions on the importance of the intervention, the presence of incentives or rewards for implementation, the degree to which goals are communicated within the organization, as well as the learning climate where stakeholders are engaged in the process of change. The Inner Setting also addresses the organizations' readiness for implementation which includes leadership engagement, available resources, and access to information and knowledge relating to the intervention.

### **3.3.5 Fourth Domain: Characteristics of the Individuals**

This domain addresses individual behaviours which can significantly impact the success or failure of an intervention. This domain addresses the interplay between individuals and their organization in which the intervention is taking place. The constructs within this domain include: *Knowledge and Beliefs about the Intervention* (stakeholders' attitudes toward the intervention and the perceived value of the intervention and whether it aligns with their knowledge and beliefs); *Self-efficacy* (whether stakeholders involved in implementation believe they can achieve the goals set out by the intervention); *Individual Stage of Change* (the stage of stakeholders as they progress through implementation of the intervention (often defined by Prochaska's Stages of Change, or Rogers' Diffusion Theory); *Individual Identification with Organization* (the relationship and degree of commitment of stakeholders to their organization); and *Other Personal Attributes* (a broad construct that can include various personal traits of stakeholders involved).

### **3.3.6 Fifth Domain: Implementation Process**

The final domain describes the process of implementation. Organizational change models commonly break down this process into five stages including, planning, engaging, executing, reflecting and evaluating. The stages do not necessarily occur sequentially, nor is every stage even included during implementation. The five constructs will be described in more detail: *Planning* involves developing a method or course of action for implementation that builds capacity at the local level. The goal of planning is to create change at both an individual and collective level. The next step is to *engage* or involve individuals at the local level in the implementation process. It is important to engage members early on in the implementation process. The presence of a champion is considered an asset. *Executing* is the next stage, which involves actually implementing the intervention. Finally, it is important to *reflect on* and *evaluate* the process of implementation and the intervention itself.

These domains present the multiple factors that can positively or negatively affect the implementation of an intervention. Damschroder et al (2009) explain that:

evaluation of most constructs relies on individual perceptions. For example, it is one thing for an outside expert panel to rate an intervention as having ‘gold standard’ level of evidence supporting its use. Stakeholders in the receiving organization may have an entirely different perception of that same evidence. It is the latter perceptions, socially constructed in the local settings, which will affect implementation effectiveness. It is thus important to design formative evaluations that carefully consider how to elicit, construct, and interpret findings to reflect the perceptions of the individuals and their organization, not just the perceptions or judgements of outside researchers or experts. (Damschroder et al., 2009)

This interpretive descriptive study will, therefore, focus on perceptions of local stakeholders regarding the implementation and perceived impacts of the Ontario School Food and Beverage Policy (P/PM 150) in Peel Region.

## **Chapter 4**

### **METHODS**

#### **4.1 Background Information (Context)**

##### **4.1.1 The Region of Peel**

The Region of Peel is made up of three cities: Mississauga, Brampton and Caledon with a total population of 1,296,814 based on the 2011 census. It is one of the largest and most diverse regions in Ontario, where just over 50% of the population are immigrants (Peel Data Centre, 2013) Peel Region has the second highest percentage of recent immigrants in the General Toronto Area (GTA), where recent immigrants are defined as individuals arriving in Canada between 2006-2011 (Peel Data Centre, 2013). The majority of recent immigrants in the Region are from India (33, 880), Phillipines (9,330), Pakistan (9,295), China (4, 050), and Sri Lanka (3,385) (Peel Data Centre, 2013). In terms of distribution across the Region, 57.6%, 40.5%, 1.9% of the population of Mississauga, Brampton, and Caledon, respectively, are immigrant. Additionally, 8.6% of Peel's immigrants are under 5 years of age, 41.1% are between 5-24 years of age, and 50.3% are over the age of 25 (Peel Data Centre, 2013). There are over 318 000 children and youth aged 1-18 years in Peel, making up one-quarter of the total population (Region of Peel, 2013). One in five children speaks a language other than English (Region of Peel, 2013).

Approximately 12 percent of the population in Peel Region is considered low income, which is the second highest prevalence of low income in the GTA (Peel Data Centre, 2013). Low income is defined by the After-Tax Low Income Measure, which “identifies various households with an after-tax income lower than 50 percent of the median national income for

all families in a given year” (Peel Data Centre, 2013, p.2). The percentage of people living in low income, are 13.6% in Mississauga, 12.1% in Brampton, and 6.8% in Caledon. Caledon has the lowest percentage of people living in low income compared to the rest of the municipalities in the GTA. In terms of family structure, 15.3% of families in Peel Region are lone-parent families with 15%, 16%, 11%, and residing in Mississauga, Brampton, and Caledon respectively (Peel Data Centre, 2013). The median after tax income in Peel Region is \$34,822 for 1-person households and \$75,941 for 2-person households.

A report on the health of Peel children and youth indicates that 32 percent of children and youth between Grades 7 and 12 are considered overweight or obese based on BMI, with 37.2% and 27.0% of males and females in the overweight/obese category respectively (Region of Peel, 2013). The report also shows that a large proportion of youth also has poor eating habits and low levels of physical activity.

#### **4.1.2 Introduction of the Ontario School Food & Beverage Policy**

Because of increased concern for the health of Ontario children and youth, the Ministry of Education introduced the Ontario School Food and Beverage Policy (P/PM 150) in January 2010 (Ontario Ministry of Education, 2010). The policy defines nutrition standards for food and beverages that can be *sold* to students in Ontario schools, applying to cafeterias, vending machines, tuck shops, catered lunch programs (pizza day, sub day), bake sales, and special events selling food. The Ministry expected all schools: elementary, middle and secondary, to fully implement the policy by September 2011 (Ontario Ministry of Education, 2010). The nutrition standards are based on Eating Well with Canada’s Food Guide and are broken down into three categories: *Sell Most, Sell Less and Not Permitted for*

*Sale*. The ‘Sell Most’ category includes items that have high levels of essential nutrients and low levels of fat, sugar and sodium and must make up at least 80% of all food and beverage choices available to students. The ‘Sell Less’ category contains items that might have slightly higher amounts of fat, sugar and sodium, but still include essential nutrients. These items must make up no more than 20% of food and beverage choices available to students. Finally, items that are ‘Not Permitted for Sale’ generally contain few to no essential nutrients and are high in fat, sugar and salt. P/PM 150 does, however, allow schools up to ten ‘exemption days’ for special events where foods otherwise not permitted are allowed. Regarding implementation and monitoring, school boards are encouraged to work and consult with stakeholders such as students, parents, schools staff, community, public health professionals, and food service, and their boards of health to implement the policy. It is the school boards’ responsibility to monitor the implementation of P/PM 150 (Ontario Ministry of Education, 2010); however, based on the Auditor General’s report (Lysyk, 2013), there appears to have been little to no accountability for monitoring.

In 2012, no evaluations of P/PM 150 had been conducted. Peel Public Health contacted the University of Waterloo (UW) with an interest in conducting an arm’s length evaluation of P/PM 150 within the Region of Peel. At the time, Peel Public Health had multiple priorities in place to support schools in implementing P/PM 150, including the development of resources, such as adaptation of OSNPPH/OPHA Tools for Schools and Bake It Up recipe books that are PPM 150 compliant, school food expo’s, and the hiring of School Food and Beverage Policy consultants/coordinators whose responsibilities included assisting schools with policy implementation and monitoring. While these priorities were in

place, there was a desire to better determine what was working well and where public health could better support schools. Therefore, a large 5-component evaluation was requested by Peel Public Health and taken on by a research team at the University of Waterloo. One of the components was a qualitative evaluation of key stakeholder perspectives of P/PM 150 implementation, which is the focus of this thesis. Before the qualitative research is introduced in more detail, the following section will provide a summary of the larger five component evaluation.

## **4.2 Introduction to the Larger 5-Component Evaluation**

Researchers from UW collaborated with an advisory team at Peel Public Health (PPH) to conduct this arms-length comprehensive process evaluation of P/PM 150 implementation in the Peel Region. The advisory team consisted of dietitians, public health nurses, P/PM 150 consultants and coordinators, and professionals in the Children and Youth Team, as part of the Chronic Disease and Injury Prevention Division. The UW team, along with the advisory team, met on a regular basis (almost monthly) throughout the duration of the project. The Peel advisory team provided feedback, support and consultation throughout the evaluation process. The role of the Peel Public Health advisory committee for this particular thesis (qualitative component) included: preview of probes for focus groups and interviews, review of student and parent survey questions and input into study processes.

The five components of this evaluation included: 1) qualitative interviews and focus groups with key stakeholders to explore multi-stakeholder perceptions of the implementation process and outcomes (the focus of this thesis); 2) an online 24 hour food recall survey with students in Grades 6 to 10 assessing their dietary intakes and food behaviours; 3) an

environmental scan of the school food environment which included the completion of the Healthy School Planner and environmental scan that includes a photo-inventory of all foods and beverages offered in schools; 4) a GIS mapping component assessing the food retail density in relation to Peel schools at a 500m, 1000m, 1500m radius; and 5) a knowledge translation component to ensure that results of the study were shared widely across the Region and beyond.

The study received ethics clearance from the University of Waterloo's Office of Research Ethics, as well as both school board ethics committees. Data were collected over a span of two years (April 2012 – June 2014). As a member of the project advisory group since its initiation, I, Renata Valaitis (RV), was involved in coordinating data collection for the school-based studies and team communications throughout. However, the specific research focus of this thesis is the qualitative assessment of multi-stakeholder input regarding P/PM 150 and its implementation as described above in the detailed objectives.

### **4.3 The Qualitative Study: Methods**

The study used a qualitative interpretive descriptive approach (Thorne, 2008). Data were collected using the following methods:

- i) Focus groups with students (Grade 6-10)
- ii) Focus groups with parents of Grade 6 to 8 students (from the schools of student focus group participants, but not necessarily parent-child pairs)
- iii) One-on-one interviews with school stakeholders (including principals and teachers)
- iv) One-on-one interviews with food service providers

- v) Student responses from open-ended questions added to the online 24-hour food recall survey
- vi) Surveys with parents of secondary school students (Gr. 9-12)

*Note that RV facilitated and conducted all focus groups and interviews, except for two cases due to scheduling conflicts, and was present for all parent surveys and most of the student web-based surveys.*

#### **4.3.1 Focus Group Methods**

Focus groups were chosen as the ideal method for obtaining student attitudes, perceptions, and opinions through in depth discussion (Gibson, 2007). Student and parent focus groups included a range of 2-15 participants. According to Freeman (2006), a typical focus group should consist of 6 to 12 participants, so that the group is large enough for a good discussion, yet small enough that everyone can equally contribute. Gibson (2007) suggests that age differences between the participants should only be between one to two years; the focus groups that were conducted involved students of approximately the same age. Sessions were audio-recorded and transcribed. In addition to a facilitator, a note taker was present at some of the focus groups (depending on the data collection schedule of that day). Focus group sessions ranged from 30 minutes to an hour in length, depending on class schedule. For students to participate in a focus group, a signed consent form was needed from a parent/guardian. For parents, the procedure, anonymity and confidentiality were reviewed prior to the focus group sessions, and the parent consent forms were signed. According to Kitzinger (1995), focus groups are most effective when they are conducted in a

relaxed setting; therefore, focus groups took place in a quiet space at the school over the lunch period for students. For parents, focus groups took place whenever it was convenient for parents to come into the school. Questions for students and parents revolved around student eating habits, knowledge of P/PM 150, perceived changes to school food, thoughts about the new policy including strengths and challenges, and perceived impact of the policy on health behaviours. See Appendix B and C for student and parent focus group interview questions.

The focus group method has many strengths. For example, it is a flexible, inexpensive, way of collecting in depth information from a group of relevant stakeholders (Monette, Sullivan, & DeJong, 2005). Additionally, it is a particularly useful method for collecting people's knowledge and experiences, examining "not only what people think, but how they think and why they think that way" (Kitzinger, 1995, p.299). The group interaction in focus groups can stimulate and promote the exchange of ideas, and encourage participation from all participants (Kitzinger, 1995; Monette, et al., 2005). On the other hand, a disadvantage of the focus group method is that the group dynamic may discourage views outside the group norm, therefore, participants may feel uncomfortable speaking up. Additionally, some focus group members may dominate the session, not allowing for all voices to be heard. In the school setting, timing is a challenge for conducting focus groups, as one class period may not be sufficient to answer all questions. Also, due to smaller sample sizes, results are less generalizable to the larger population (Kitzinger, 1995; Monette, et al., 2005).

#### **4.3.2 Individual Interviews**

Individual interviews were conducted with a sample of school stakeholders, including principals, and teachers (usually, physical-education, health, nutrition, hospitality teachers). Interview questions involved a series of open-ended questions relating to their school's food environment, the presence of policies guiding school food, their thoughts on the successes and challenges of P/PM 150 and the process of implementation, as well as perceived impacts of the policy. The school stakeholder interviews also included questions regarding resources and supports for policy implementation they had used and accessed through Peel Public Health, or any other means. See Appendix D for school stakeholder interview questions.

Food service provider interview questions (found in Appendix E) were open-ended and pertain to background information of the organization, perceived successes and challenges of P/PM 150 and the process of implementation of P/PM 150 (including strategies/collaborations and resources/supports) as well as the perceived impact of the policy.

All individual interviews ranged from half an hour to two hours in length (average was 45 minutes to an hour). Interviews were conducted in a quiet space in the school for schools stakeholders and over the phone or another suitable location for food service providers. Interviews were scheduled at a convenient time for each participant. For all interviews, a description of the research, procedure (information on audio-recording, transcription), anonymity and confidentiality were reviewed prior to the interview. Participation in the interview was, thereby, deemed as consent. Participants were informed that all quotations that may be used in any research reporting would not be attributed to

individuals, but to broad categories of participants (ie. a quote from a secondary school teacher, an elementary school parent). Not all food service provider interviews were audiotaped, due to lack of consent; in place of the audio-recording, detailed notes were taken.

The strengths of the interview method are similar to the focus group, where in depth, detailed information can be gathered about an individuals' knowledge and experiences. In addition, the discussion can be more tailored to answer specific questions as well as more flexible and adaptable to the situation (Hennink, Hutter, & Bailey, 2011; Monette et al., 2005). For food service providers, they were given the option of a phone interview, offering more flexibility in terms of when the interview could take place. Disadvantages of this method are the time and cost associated with individual interviews. Arranging a time with school stakeholders with busy schedules and travelling to multiple locations to conduct interviews is a challenge. Finally, the issue of interviewer bias is a limitation of the interview method (Hennink et al., 2011; Monette et al., 2005).

#### **4.3.3 Student Open-ended Survey Questions**

Three open-ended questions were added to the 24-hour food recall survey (one of the components of the full 5-component study), which were also incorporated into the qualitative analysis. The following questions were added to the web-based survey: *1) Do you ever buy food or drinks at a restaurant or take-out during the school day? If yes, why do you choose to buy food or drink at a restaurant or take out during the school day? 2) Do you ever buy food at school? If you buy food at school, what do you buy most often? 3) What are your thoughts on the new School Food and Beverage Policy?* Response data were downloaded into an excel spreadsheet and sorted by question and by school.

#### **4.3.4 Parent Survey**

To address the challenge of recruiting secondary school parents for focus groups, a short survey was also created that was distributed to parents at two secondary schools (1 Catholic, 1 Public) during an evening dedicated to parent teacher interviews. The two schools were selected based on stakeholder advice and feasibility. The survey included a combination closed and open-ended questions that were derived from the parent focus group guide. A booth was set-up at both schools and the researcher distributed the surveys to any parent coming into the school. Parents could take the survey with them and submit completed surveys in a drop-box. See Appendix F for the paper based survey questions.

The advantages of the survey method are that large numbers of participants can be reached at a low cost. Also, participants might be more honest responding anonymously in an online survey, compared to in a face-to-face interview or focus group where interviewer effects are possible (Monette et al., 2005). The disadvantage of surveys (especially open-ended questions) are that participants are likely to skip questions, or respond with ‘don’t know’, leading to missing data (Duffy, Smith, Terhanian, & Bremer, 2005) .

### **4.4 Sampling & Recruitment**

Following research approval by both the Peel District School Board (PDSB) and the Dufferin-Peel Catholic District School Board (DPCDSB), sixty-seven Region of Peel schools (*21 public elementary, 14 public secondary, 17 Catholic elementary, 15 public secondary*) were randomly selected for the full 5-component study. They were selected by a statistician based on a desired student response rate for the 24 hour food recall (at least 2000 students), and web-based survey (500 in each of the PDSB and DPCDSB elementary and secondary

schools, respectively; based on anticipated participation of at least half of the schools, an anticipated active consent of <50% of students, and two classes per grade per school). Principals were invited to have their school participate in the full evaluation (including 24 hour diet recall survey, environmental scan and focus groups/interviews). The advisory team from Peel Public Health recruited the schools initially and provided researchers at the University of Waterloo with a school contact. Then a follow-up phone call was made from the University of Waterloo research team describing the study and instructions for next steps.

The school contact was then sent an information letter that included a study description (Appendix G) along with a package of consent forms, which included a student focus group consent form (Appendix H), and a parent focus group consent form (Appendix I). The school contact and the researchers set up a data collection date(s) for the study and the school contact was asked to distribute the consent forms to all participating classrooms that included a ‘return consent form’ date one day prior to the data collection date. Classroom teachers, or the primary school contact collected all returned consent forms and they were collected by University of Waterloo researchers on the day of data collection.

Regarding parent recruitment for focus groups, all students that received a student focus group consent form was also sent home with a parent focus group consent form inviting parents to participate; however, due to low parent focus group response, the school contact often sought out parents they thought would be interested (resulting in many parents participants from school council). There were no incentives provided to students for participation in the focus group. Coffee, water and small snacks were used as an incentive for parent focus group participants.

While all recruited schools were invited to participate in the student and parent focus group and every school contact was invited to participate in a one-on-one interview, not every school participated. This was usually due to time-schedule conflicts, lack of returned consent forms for student focus groups, and challenges around recruiting parents for focus groups. No additional focus groups or school stakeholder interviews were sought once it was felt that data saturation had been reached.

For the secondary school parent survey, two participating secondary schools (one Catholic, one Public) were asked for permission to have a University of Waterloo researcher attend parent-teacher interview night to distribute the survey to parents. Only one researcher was available on the data collection date. Therefore data collection at only those two schools was feasible. The data collection booth was set up at the main entrance of the school, and any parent entering the school was given a survey with a pencil and asked to complete the survey before they left.

Recruitment for food service providers was done through purposive sampling (Creswell & Plano-Clark, 2011; Miles, Huberman, & Saldana, 2014). The Peel Public Health advisory committee members provided contact information for all food service providers catering to Region of Peel Schools. All food service providers were contacted either over the phone or through email (See Appendix J for the phone script/email invitation) (Creswell & Plano-Clark, 2011; Thorne, 2008).

## **4.5 Anonymity & Confidentiality**

As mentioned above, all information provided by the participants was kept confidential. Only the primary researcher, her faculty advisor, and the transcriptionist had

access to any recordings or information collected from the stakeholders. All recordings sent to the transcriptionist were password protected. Student survey data were collected using unique login and passwords with no link to personal identifiers. Only the level of respondent (elementary or secondary school) will be noted. Parent survey data were collected anonymously, where parents submitted their survey into a dropbox. The survey did not ask parents to include any identifying information on the survey. They were, however, asked to include the grade(s) of their child(ren).

## **4.6 Data Analysis**

Data analysis for this thesis used an interpretive descriptive approach (Thorne, 2008). The interpretive descriptive approach seeks to describe particular phenomena based on socially constructed perceptions of those experiencing the phenomena. Rather than simply describing individual perceptions, interpretive description “seeks to discover associations, relationships and patterns within the phenomenon that has been described” (Thorne, 2008, p.50). Through patterns and themes, the goal of this approach is to “reconfigure what is found into a form that has the potential to shift the angle of vision with which one customarily considers that phenomenon” (Thorne, 2008, p.50).

Interviews and focus groups were transcribed verbatim and analyzed using NVivo 10 Qualitative Analysis Software (QSR International, Victoria, Australia). The transcripts were analyzed through a process of qualitative coding. Codes are labels or constructs that attribute meaning to text within the transcript (Miles et al., 2014). First cycle coding was the most basic form of coding used in which items were assigned to a code and ‘chunked’ together. An InVivo-style of coding was also used where codes were created from the actual words or

phrases used by the participants. A second cycle of coding (or pattern coding) was then conducted where the first cycle codes were re-assessed to find patterns and create common themes (Miles et al., 2014). This analysis also included the use of the query functions and matrices in NVivo to look at any potential differences by participant attributes (e.g., parent, secondary versus elementary student, food service provider etc.) and any difference by school (elementary vs secondary). The multiple-stakeholder data were analyzed together (when they addressed common objectives) and separately when questions were unique to a stakeholder group (i.e. food service providers).

Damschroder's 'Consolidated Framework for Implementation Research' five domains was used as an *a-priori* framework for the analysis (but not to guide the data collection). Therefore, both deductive and inductive coding were used for the analysis (Miles et al., 2014; Thorne, 2008). Codes were first created inductively through first cycle coding and pattern coding, and then codes were analyzed deductively using the five domains described by Damschroder, as embedded in the thesis proposal objectives. Apparent similarities and differences between stakeholder perceptions were assessed under each domain. This final deductive analysis under the five domains of the Consolidated Framework provided the structure for the discussion. Results that do not fit the concepts in the framework were identified in the analysis.

## **4.7 Study Rigour**

While this study assessed one region's experiences of P/PM 150 implementation multiple stakeholder views were captured (students, parents, school stakeholders, and food service providers). Data were collected from multiple schools in the region (elementary vs

secondary) and from differing cities (Caledon, Brampton, Mississauga) with the goal of achieving a representative regional sample. As data were being drawn from several sources (multiple stakeholder types across different schools/areas), triangulation of these sources was achieved (Creswell & Plano-Clark, 2011; Miles et al., 2014; Thorne, 2008). Also, as this qualitative study is only one part of a larger evaluation, triangulation across other methods will be possible in further analyses beyond this thesis. Care was taken to avoid introducing personal bias during interviews, focus groups, and data interpretation.

To address reliability of the coding, a codebook was created that included definitions and descriptions of each high level (pattern) code created; definitions were not provided for the first level codes, as they were more detailed, they used participants' own wording, and were generally self-explanatory. A second coder with graduate level training and published experience in qualitative methods, was used for the purposes of inter-coder reliability (Miles et al., 2014). The second coder was given a transcript from each participant group (student, parent, school stakeholder and food service provider) and they reviewed the coding stripes for those transcripts. Any disagreements between the transcripts and the assigned codes were discussed, and any potential codes that were missed were identified. The second coder was also given a set of high-level pattern codes to review. The coder compared the chunks of text assigned to each code to ensure that the over-arching code reflected the transcript text. In addition to checking level of agreement, peer debriefing took place during the analysis process (Creswell, 1998).

Also, to ensure rigour, memoing was also used. Memoing is described as a “brief or extended narrative that documents the researchers reflections and thinking processes about

the data" (Miles et al., 2014) p. 95. These memos helped document any analytic thinking that occurred, and possible patterns or relationships that emerged throughout the analysis process (Thorne, 2008).

## 4.8 Data Sources

### 4.8.1 Qualitative Focus Groups & Interviews

In total, 5 food service interviews, 15 school stakeholder interviews (3 elementary, 12 secondary), 5 elementary school parent focus groups, and 11 student focus groups (7 elementary, 4 secondary) were conducted. See table 4.1 for the breakdown focus group and interview sources (n= number of participants).

Table 4.1 Breakdown of focus group and interview data sources

	<b>Elementary Schools</b>	<b>Secondary Schools</b>	<b>TOTAL</b>
Student Focus Groups	7 (n=2-14 students per focus group)	4 (n=5-13 students per focus group)	<b>11 focus groups</b> (n=109 participants)
Parent Focus Groups	5 (n=2-5 per focus group)	0	<b>5 focus groups</b> (n=15 participants)
Interviews/Focus Group with School Stakeholders	3 interviews	12 interviews	<b>15 interviews</b>
	1 Focus Group (n=4)	0	<b>1 focus group</b> <b>(n=4 participants)</b>
Interviews with Food Service Providers	1	4	<b>5 interviews</b>

\*conducted between April 2012- June 2014

#### 4.8.1.1 Interview & focus group participant characteristics:

Students who participated in focus groups ranged from grade 6 to grade 11, with the majority in grades 6 (n=13), 7 (n=29), 8 (n=13), or 9 (n=19). Elementary school parent focus

group participants (n=15) usually had a child or children in a variety of grades ranging from grade 1-8; six participants were parent council members.

School stakeholder interview participants included principals, vice-principals, school staff, nutrition/hospitality teachers, as well as other teachers who were involved or knowledgeable in school nutrition. Three of the interview participants were considered the lead teachers for P/PM 150 at the school. Three others were considered nutrition champions in the school. Specific details regarding food service provider participants cannot be described to protect their anonymity.

#### **4.8.2 Student & Parent Surveys**

Forty-six secondary school parent surveys (15 Catholic, 31 Public) were returned, and 1,562 open-ended responses from the student 24-hour recall questionnaire were analyzed.

Table 4.2: Breakdown of survey participants by school type

	<b>Elementary Schools</b>	<b>Secondary Schools</b>	<b>TOTAL</b>
Secondary School Parent Survey	-	46	<b>46 surveys</b>
Student Survey (open-ended questions)	766 responses	696 responses	<b>1,562 responses</b>

##### **4.8.2.1 Survey Participants:**

Of the 46 parent surveys that were returned, 43.5% of respondents had a child in grade 9; 28.3% had a child in grade 11; 21.7% had a child in grade 10; and, 0.6% had a child in grade 12. In terms of student survey participants, 1, 562 students responded to the question “what do you think about P/PM 150?” Seven-hundred and sixty six elementary school participants (in grade 6-8) responded, while 696 participants (in grades 10 & 11)

responded. Survey data were analyzed and incorporated into the focus group and interview results.

Results will be reported by themes, rather than by participant type (students, parents, school stakeholders, food service providers) as many themes emerged from all data sources. Themes will be discussed in order of frequency (most frequently reported to least frequently reported) in each section, unless otherwise stated. Findings that are specific to one or more participant type will be distinguished, and any noteworthy differences between groups will be described. A discussion will be included at the end of all results chapters ('Setting the context', and 'The Ontario School Food and Beverage Policy (P/PM 150)') under the lens of Bronfenbrenner's Ecological Systems Theory (1994) and Damschroder's Consolidated Framework for Implementation Research (2009).

## **Chapter 5**

# **RESULTS: GENERAL PERCEPTIONS OF SCHOOL FOOD, STUDENT FOOD BEHAVIOUR, & FACTORS INFLUENCING FOOD BEHAVIOURS: A MULTI-STAKEHOLDER ANALYSIS**

The first results chapter of this thesis will report on the general perceptions of school food, students' food behaviours, as well as the factors (and environments) that influence students' food choices. Chapter 5 results are organized as follows: 1) General thoughts on school food and typical food behaviours; 2) Factors that influence students' food behaviours; 3) Food environments that influence student food behaviours. These results are unrelated to the Ontario School Food and Beverage Policy (P/PM 150); however, they are valuable in describing the context in which the policy was being implemented. It is important to note that adult stakeholders may have been aware that the focus of the study was related to the policy, which could have affected their responses to non-policy specific questions.

### **5.1 General Thoughts on School Food & Typical Food Behaviours**

#### **5.1.1 Students' Thoughts on School Food**

Prior to being asked specifically about P/PM 150, focus group participants were asked about their general thoughts on school food, specifically what they liked/disliked. Opinions about school food varied widely. There were as many positive and negative perceptions as there were mixed/neutral amongst all focus groups; however, slight differences were found amongst specific participant groups. While school food dislikes came up in all groups, secondary school students were more vocal about their concerns. One

secondary student noted that his perception was representative of the whole school where: “most people [I talk to], in their words, say ‘caf food sucks’”. Negative impressions about school food were also raised during school stakeholder interviews. A teacher brought up the fact that the school cafeteria doesn’t meet specific population needs (i.e., halal options) which she felt was a concern. She clarified that “over 50 percent of the school is Muslim, and they didn’t serve halal meats at our cafeteria. Ever...Like if [the cafeteria] can’t even handle halal versus not halal, how are you ever going to handle P/PM 150?”. This theme will be discussed further in relation to P/PM 150 and school food changes.

Another difference between participants was that more elementary school students reported being satisfied with school food compared to elementary school parents and secondary school students. Satisfaction with school food was brought up in five out of the seven elementary student focus groups, whereas only one out of the four secondary school student focus groups held this view. Some elementary students’ positive comments included, ‘a lot of people like it – it tastes good’, ‘I love it! It’s pizza – how can you not love it?’ and ‘a lot of people [tend to order] school food’.

Two issues were brought up when participants were asked about their general thoughts on school food including limits to food variety and high cost of school food. The most commonly reported complaint amongst all focus group participants was a lack of variety in food. One secondary school student explained, “if you bring your lunch or you go out [for lunch], you have more variety. If you go into the caf, it’s like we have the same thing every day and you just get sick of it”. High pricing of food was also a common complaint, especially when comparing costs for food from outside vendors, but this was only reported

amongst secondary school students. One student explained, “People would rather buy stuff outside because it’s more expensive at school” (secondary school student).

It is also interesting to note that in three of the focus groups, participants referred to school food as being ‘unhealthy’. One parent described that in the past, her daughter “was able to get things like salads or whatever but then it just turned into, you know, fries with gravy or pizza. [...] So I’m like, well, I’m not going to give you money for that. What’s the point of that? It’s not healthy”.

### **5.1.2 Students’ Typical Food Behaviours (Source of Food)**

Participants were also asked about students’ typical food behaviour and whether they usually brought food from home, bought food at school, or left the school to buy their snacks and/or lunch. Elementary and secondary students most often spoke about bringing their lunch into school, which was corroborated by parents’ comments. The next most commonly reported behaviours were that elementary students typically went off school grounds or home for lunch, while secondary students reported buying food at school or leaving school grounds to purchase food outside of school. Some school stakeholders explained that some schools had a significant number of students leaving school grounds on a regular basis, as explained by one elementary school stakeholder: “We have a lot that leave. They go to the plaza and they buy McDonald’s, they go wherever. I’d say probably at least fifty percent do not eat here.” Participants also reported parents delivering food to their child at school.

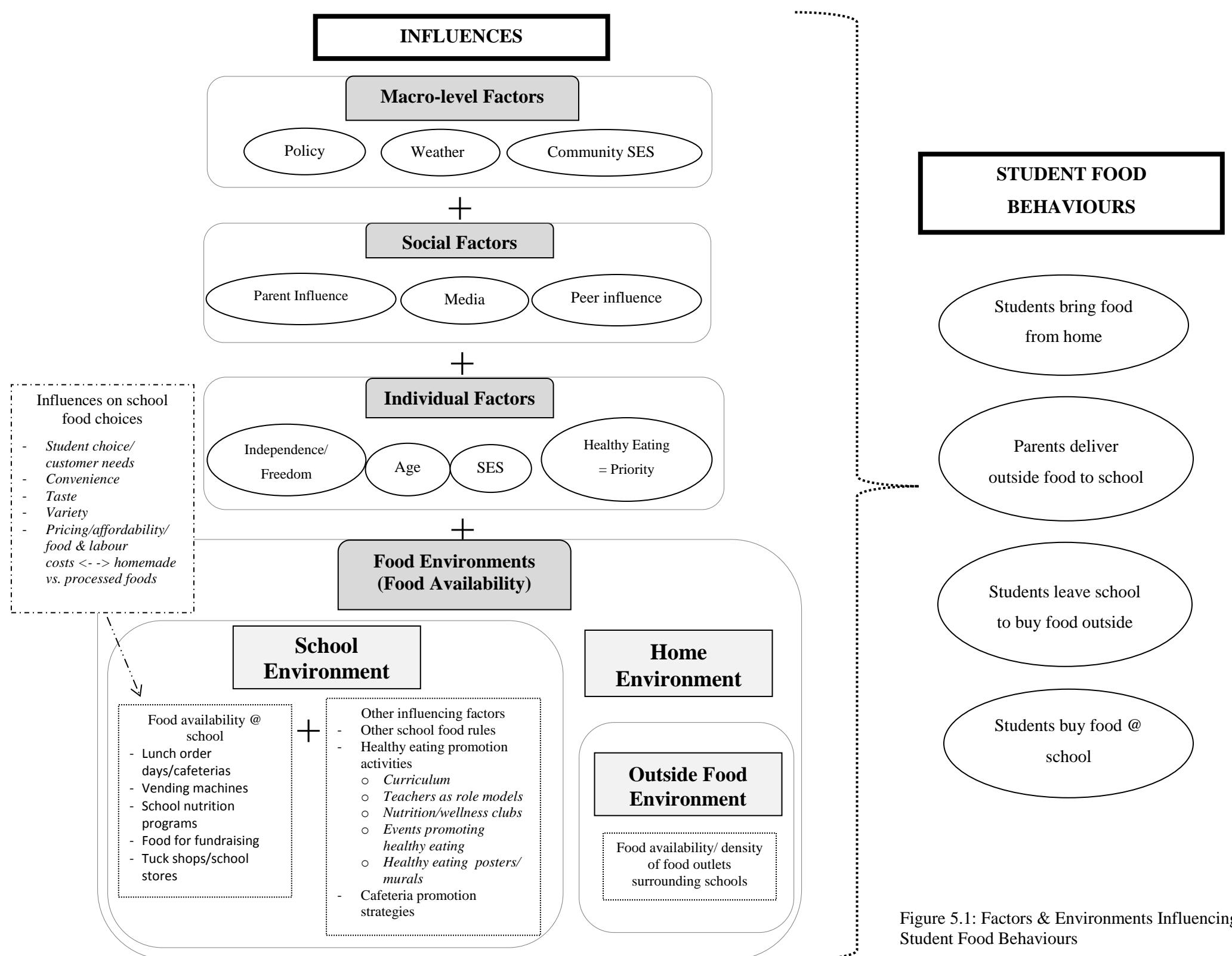
Many participants reported a combination of different behaviours, for example: “for me, I usually do bring my lunch, but sometimes I like to go to the corner store with my

friends” (elementary school student); “[my son] usually brings lunch from home, but occasionally goes to the plaza” (secondary school parent); or “my child buys cafeteria food once a week and the rest of the week brings a packed lunch that I prepare” (elementary school parent). Some school stakeholders also reported witnessing students participating in un-desirable food behaviours, such as throwing food away, skipping meals, and consuming unhealthy foods on a regular basis (i.e., energy drinks).

### **5.1.3 Section 3.1 Summary (General Thoughts on School Food & Typical Food Behaviours)**

Stakeholders’ opinions on school food varied greatly; while some had general positive opinions ‘liking school food’ (usually elementary school participants), those with negative opinions were more vocal about their views. Secondary students more often spoke about their disappointment in food quality, variety and high cost of school food, although some elementary students and parents shared these same views. While many students reported buying food at school, leaving school grounds to buy outside food, parents delivering outside food to the school, or a combination of behaviours, the most commonly reported student food behaviour was bringing food from home. While the home environment seemed to play a significant role in students’ food choices, many participants mentioned other possible factors (and other environments) that influenced students’ food behaviours which will be discussed in the following section. Figure 5.1 illustrates the factors and environments influencing student food behaviours.







## **5.2 Factors that Influence Students' Food Behaviours:**

Participants identified individual, social and macro-level factors that played a role in influencing students' food behaviours.

Table 5.1: Summary of Influences on Students' Food Behaviour

- |   |
|---|
| <ul style="list-style-type: none"><li>• Individual factors<ul style="list-style-type: none"><li>○ Age</li><li>○ Independence/freedom</li><li>○ Healthy eating being a student priority</li><li>○ Family/individual SES</li></ul></li><li>• Social factors<ul style="list-style-type: none"><li>○ Parent influence</li><li>○ Peer influence</li><li>○ Media</li></ul></li><li>• Macro-level factors<ul style="list-style-type: none"><li>○ Weather</li><li>○ Community SES</li></ul></li></ul> |
|---|

- Individual factors

- Age
  - Independence/freedom
  - Healthy eating being a student priority
  - Family/individual SES

- Social factors

- Parent influence
  - Peer influence
  - Media

- Macro-level factors

- Weather
  - Community SES

### **5.2.1 Individual Factors Influencing Student Food Behaviours**

#### **5.2.1.1 Student age:**

Student age was a frequently reported influence on student food behaviour.

Participants explained that at both elementary and secondary school levels, younger students were more likely to stay on school grounds during lunch periods (either bringing in their lunch or buying food from the cafeteria), while older students in higher grades were more likely to leave. One secondary school stakeholder explained, “A large portion go to the plaza, but it’s primarily the nines and tens that eat in the cafeteria.” At the secondary school level, students in grades 11 and 12 can drive themselves to outside food vendors that are farther

away if they have access to a car. School stakeholders reported students often bringing unhealthy food back to the school and eating it on site. However, outside food options weren't the only factor influencing why students left the school.

#### **5.2.1.2 Independence & freedom:**

Students in both elementary and secondary schools discussed independence and freedom as reasons for leaving the school property during lunch. Participants explained that it is often not the food options that drive students off campus, it is the fact that students just want to get out of the school. A parent commented, “it's not because of the pizza that they want to go out. They want to...be with their friends. They want to hang out at the plaza. It's free time away from any supervision”. A food service provider added “when I was in high school, well, for one, there is no reason to stay at school – students don't want to be there at lunch. They go out in groups to hang out at coffee shops. A lot of them don't even eat lunch.”

#### **5.2.1.3 Healthy eating being a student priority:**

Participants also discussed whether they felt that healthy eating was a priority for students. There were mixed perceptions. Some participants thought that students cared a lot about healthy eating in general, specifically older students and athletes. One school stakeholder stated, “I feel like kids in grade nine could sort of care less...I feel like as you grow older, you're more health conscious.” Those that reported that healthy eating wasn't a priority explained that taste had a stronger influence than health on students' food choices: “with teenagers, I think they don't really care about it being healthy or unhealthy. Their biggest concern is how it tastes” (secondary school student). Also, the price of foods and

portion sizes were important, which were often unhealthier options. “I think [we have] a lower income community around [the school]. So, things like the Jamaican beef patties get sold a lot [...] because they’re cheap, filling and they’re easy” (secondary school teacher).

#### **5.2.1.4 Family/individual socio-economic status**

Lower income families have less time to prepare lunches and have less money to spend on school lunches, which can lead to poor food choices as explained by a secondary school stakeholder: “it’s kind of perpetuating because depending on what financial situation you’re in, you get used to certain food and you only have two dollars in your pocket so you’re going to figure out ‘how do I best spend the two dollars [...] that will fill me up?’”

### **5.2.2 Social Factors Influencing Student Food Behaviours**

#### **5.2.2.1 Parent influence:**

There were a number of factors that were perceived to have an influence on students’ food behaviours. The most common, which was described by all participant groups, was the influence of parents who had a role in student food behaviour in a number of ways. Participants talked about parents caring about healthy eating for their children and being positive role models for them by providing healthy lunches or involving their children in grocery shopping and cooking. One parent explained,

My oldest has a health issue, he goes grocery shopping with me. And I ask him to look at the label and tell me which one is better. I’m trying to make him understand that you need to know what you are putting in your body.

They discussed the fact that parents tend to have less control over their children's food behaviours/habits, especially as they get older. Still, some felt that parents tended to be overprotective of their children. A food service provider expressed, "I think parents are really the barrier to children's developing healthier eating habits. Not intentionally, just out of concern and worry. They're worried their children will, what, like starve?"

Participants also discussed parents' influence on their children's purchasing and/or eating behaviour at school. Some participants explained that parents will give money or drop off lunches for their child at school. Three parent focus groups noted having observed other parents regularly dropping off unhealthy 'fast food' for their children, e.g., pizza, McDonalds, KFC. Others described parents being unaware of their child's eating habits during school hours. An elementary school stakeholder reported that, "I find a lot of children will bring their lunch and they end up passing it out to everybody else 'cause they've gone and bought hot dogs or pizza".

#### 5.2.2.2 Peer influence:

Peers also had a strong influence on food choices, mostly at the secondary school level. Students "usually do what [their] friends are doing for lunch" (secondary student), so they will often decide in advance what days they want to go out for lunch. One school stakeholder also described how peers can influence behaviour at an elementary school level: "Sometimes I think kids are drawn to what looks 'cooler'. All it takes is one kid to say, 'this is the cool thing to eat.'"

#### **5.2.2.3 Media influence:**

One other interesting social influence that was mentioned less often by participants was the influence of media and marketing on student food choices: “when you see it on TV, your brain says ‘I want it’ so I will go and eat it” (elementary school student). One group of students talked about how media tries to influence people’s food behaviours, by explaining that “a little while ago, you would have gone to McDonald’s and gotten a Big Mac and it would have just been a Big Mac. But now, since they’ve done all these studies on the food and...saying this stuff is very unhealthy. [Student 2: Yeah, well those people are just watching too much Dr. Oz].”

### **5.2.3 Macro-level Factors Influencing Student Food Behaviours**

#### **5.2.3.1 Weather:**

Weather was a commonly reported factor that had an impact on student food behaviour for secondary students. Nice weather in the summer months caused more students to leave school during lunch to buy food elsewhere, while rain and winter months usually kept students on campus. One school food provider says, “certainly the weather helps us. The sales are stronger in the winter when the kids don’t wanna go outside, and we pray for rain every day...”

#### **5.2.3.2 Community socio-economic status:**

A few adult participants discussed socio-economic status and its’ influence on student food behaviours. One school stakeholder explained that their community and student population was general lower-income, therefore, cheaper foods (often less healthy) were

purchased more often. One secondary stakeholder described a “huge shift” in their school demographics where they explained, “we used to have a huge population that was supported by a big income base...since it’s been re-directed to another school...so the kids here don’t have that disposable income where they can go out and buy food on a regular basis”.

#### **5.2.4 Section 3.2 Summary (Factors that Influence Student Food Behaviours)**

Multiple factors influencing student food behaviours were identified by participants, including individual, social and macro-level factors. Participants reported student age as an important factor, where older students were more likely to leave school grounds to buy food; especially if they had access to a car. Older students were also likely to discuss independence and freedom as a reason for wanting to leave school property. Participants explained that older students (secondary) were more likely to be influenced by peers compared to younger students (elementary) who were still highly influenced by their parents. Regardless of age, participants spoke about the impact of media in influencing their food choices and whether or not healthy eating was a priority for students. Macro-level factors, such as community socio-economic status and weather also determined where students would purchase their food, or whether they would bring food from home.

### **5.3 Food Environments that Influence Student Food Behaviours**

While multiple individual, social and macro-level influences were identified, another significant influence on students’ food behaviours were the environments in which students live, learn and play: the home, school and community. Food availability differed in each of the environments. Additionally, the school food environment in particular had specific food

promotion efforts and activities that had potential to influence students' behaviour. The following section will describe how the home, school and community (outer) environments have the potential to affect student food choices.

### **5.3.1 Home Food Environment:**

#### **5.3.1.1 Food availability:**

The home environment was identified as an important influence on student food behaviours, where many participants reported students bringing food from home. In terms of food availability, participants were not asked what food they (or their parents) purchased at home, although students that brought their lunches to school typically reported bringing in sandwiches, leftovers, bagels, lunchables, and salads to school. Other than food availability, the other two major influences of the home environment were already discussed above: parent influence on students' food choices, and family socio-economic status.

### **5.3.2 School Food Environment**

#### **5.3.2.1 Food availability:**

All participants (except for food service providers) were asked what food was available for students at school. Over 35 food and drink items were mentioned: The most common to least commonly reported items were cookies, subs, milk, juice, pizza, water, yogurt, chocolate milk, hamburgers and ice cream sandwiches. Fourteen schools (8 elementary, 6 secondary) reported having vending machines, where milk (chocolate/plain), juice, chips, granola bars, yogurt, diet pop, and water were the most common items sold. Participants were also asked what they felt were the most and least popular items for

students. The most popular items included pizza, cookies, chocolate milk, burgers and ice cream sandwiches. Unpopular items were rarely mentioned. A few students reported disliking whole wheat pizza.

Eleven of the elementary schools reported having special lunch days throughout the week. Most common items served were pizza, subs, and hot dogs while the most common vendors included ‘Lunch Lady’, ‘Just Catering’, ‘Cousins’, and ‘Quiznos’. Nine of the participating schools (5 secondary, 4 elementary) noted having a school nutrition program while four have none. Seven schools (3 secondary, 4 elementary) discussed food being sold for fundraising purposes. Three schools had a nutrition program at one point in time, but recently discontinued it due to the political climate (i.e. teacher strike), or difficulties with implementation. Three elementary schools reported having a school store selling items, such as: popcorn, freezies, etc. Two secondary schools reported having a tuck shop, although one was no longer running.

While students and parents provided a summary of food and drink options at the school, adult participants (parents in charge of food order days, school stakeholders, and food service providers) discussed the factors (un-related to P/PM 150) that influenced how and what foods were chosen and offered at school.

#### 5.3.2.2 Influences on school food options & decisions:

Table 5.2: Summary of Factors Influencing School Food Options & Decisions

- |   |
|---|
| <ul style="list-style-type: none"><li>• Student preferences/customer needs<ul style="list-style-type: none"><li>○ Obtaining students’ opinions (surveying students)</li></ul></li><li>• Convenience</li><li>• Food prices, cost of food &amp; affordability</li><li>• Variety</li></ul> |
|---|

- Presentation

#### *5.3.2.2.1 Student preferences/customer needs:*

Adult focus group and interview data showed that school food was chosen most commonly based on student preferences. Three food service providers talked about how student choice had the greatest impact on what foods they purchased. One secondary school provider explained, ‘I don’t choose what to buy. My customers choose what I buy’. Elementary school parents, who selected lunch menus for special food days, chose foods based on what the students wanted as noted by this parent: “I think that’s why something like pizza is pretty easy because it’s kind of hard to go wrong with pizza. [...] The kids like the pizza and it’s a simple choice: pepperoni and cheese”.

The most common influence, as stated above, was the need to meet customer needs. Food providers specifically spoke about school and family demographics (school location, SES, family type, i.e. single parent/single income families) influencing what foods they bring into the schools. They explained that each school they serve has different food needs; some want food from scratch (hot food), while others want ready-to-eat options such as salads, sandwiches. They explained that it is important to understand the school audience they are catering to as wants differ between schools.

#### *5.3.2.2.1.1 Obtaining opinions on school food options:*

Participants (all but elementary school stakeholders) frequently discussed food service providers or schools obtaining opinions from students on what foods should be offered or sold in the school. Participants were specifically asked whether they felt that students had a say in what foods were offered at school. In five of the student focus groups (3

secondary, 2 elementary), participants stated that students did not have a say. However, five other participating schools and one food service provider reportedly conducted surveys with parents and/or students to get their opinions. Two secondary school stakeholders explained that they would ask their students about their opinions on school food. One stakeholder “kind of had a group that [she] would talk to and say ‘Okay, how are we doing? What are your suggestions?’ What they consistently came back with is ‘Miss – it’s more expensive here’.

One particular group of secondary students felt that cafeteria providers chose foods based on what sold most. One student explained:

They don’t really ask us, but definitely what sells is definitely the high point because at the beginning of the year, they used to try out like these different kind of juices. Like, they had lemonade...a mango one, or peach or something, but now it’s just pretty much all the time lemonade. I guess it’s what sold the best. They’re adapting to like what most people buy.

One food provider also spoke about not being able to grant students’ requests because of the realities of what students will purchase; often the products students want are too expensive, or it is too challenging for cafeterias to make and or serve them.

#### *5.3.2.2.1.2 Convenience:*

Convenience was also considered a top priority when choosing school food options, especially for elementary school parents. While some parents reported not participating in food order days, the majority of parents reported liking having the option as it gave students more variety, it offered them a treat and it allowed parents to only have to supplement their child’s lunch with snacks instead of preparing a whole lunch. One parent commented:

We’re not participating in a lot right now, but in the last year when I was busier, we participated in everything and exactly for that reason [convenience]. I was going to school and working part time and everything, so

the more lunches we could have, the better. So we participated in the Lunch Lady program, the pizza and the Subway.

#### *5.3.2.2.1.3 Food prices, cost of food, & affordability:*

The third most common influence when choosing school food was price. The consensus was that students would be willing to try new foods and buy from the cafeteria if the prices were reasonable. One parent focus group involving multiple parent council members who were in charge of choosing school food, discussed needing to keep all meals under five dollars or else students would not purchase them and the school would risk a loss in funds. As mentioned previously, a few stakeholders noted that what is sold most is often the cheaper option.

Food providers generally felt that they knew what students wanted and what foods sold; however, they discussed needing to make smart decisions regarding cost and profit. They spoke about the challenge of keeping their sales up so they can maintain a certain level of labour cost. They explained that there are numerous decisions they need to make to stay operational. One example was tweaking prices based on need. Two providers discussed never lowering the price of a low selling item; instead, they found other ways to save cost, such as removing an ingredient. High selling items are still a priority for the majority of food service providers.

#### *5.3.2.2.1.4 Variety:*

Variety as well as brands/trends came up equally as amongst stakeholders (especially food service providers) in terms of reasons for choosing school foods. One school stakeholder explained that their food service provider:

...makes Indian dishes, she'll make Pilipino dishes, she's making Thai...it wasn't like all the same stuff all the time...and she makes some things really spicy and hot and the kids love that right? ...She has really good variety and it reflected in her sales, right?

This also suggests the importance of serving foods that meet students' cultural needs.

Other food providers reported telling their cafeteria workers to look at what the competition outside of the school is offering and try to match it. One worker explained, "I've said this to the ladies...you have to stay up on the trends and stuff...like what you are seeing on TV for the commercials for McDonalds and KFC and whatever. You have to do something like that".

#### *5.3.2.2.1.5 Food presentation:*

Only secondary school stakeholders brought up presentation of food as important considerations for what they served. One stakeholder explained:

if you make the food appetizing and appealing, they're going to eat it. Like I'm shocked at the number of things kids will taste when we're making things in class here. The kids love [making and tasting] the soups we make, whether it's butternut squash or watercress. And they go 'oh this is really good. Why don't we have this in the cafeteria? And I go 'that's a good question, why don't we have this in the cafeteria?

While stakeholders spoke about what influenced the foods that were offered in schools, food providers and elementary school stakeholders in charge of food programs also discussed challenges they faced, which ultimately played a role in what foods were available to students in the school environment.

### 5.3.2.3 Challenges experienced by food providers that affect food availability:

The main challenge described by school food providers (and some school stakeholders) was competition with other food providers, particularly competition between smaller versus larger companies. Each felt the other had the advantage, although larger food companies more often indicated that smaller companies had the advantage. Participants explained that larger companies had funds and resources that smaller companies didn't necessarily have. It was also raised by a few participants that smaller companies seem to care more about good quality food, make their food from scratch, and cater to their audience more so than larger companies that rely on cheap and easy student favourites. One secondary school stakeholder explained this difference:

“ [The larger companies] tend to be more institutionalized and the smaller companies are more...how do you put it...fresher...or more kind of home-style. [...] With the smaller companies, where I tend to kind of have a soft spot for, those are the kind of companies that are still making their own stocks, soups and sauces. Then again, the [big companies] have all the bells and whistles and they do a great job. Don't get me wrong – they do a really good job. But it's kind of like apples and oranges”.

Three out of the four secondary school food providers talked about the challenge of ‘bidding’ to get a contract for their business to service a school or school board. Two food providers discussed ‘local food’ as being a priority to schools and school boards during the bidding process. However, they explained that since we live in Canada, it is unrealistic to expect all food to come from local sources; however, they reported some companies ‘winning the bid’ because of their local food plan which was a frustration.

Another challenge was that schools often wanted a certain ‘cut’ from vendors increasing competition as explained by this food service provider:

Schools wanted more and more rent. We had to compete with other providers that were serving processed food. Food costs a lot more money fresh. Other providers were offering four dollars for a full meal, but we still wanted to serve fresh not processed. We weren't dropping our food standards, but around us, everyone was and offering more money.

Food providers discussed having to make decisions between selling homemade/fresh versus pre-made products while taking into account labour costs and pricing. Elementary school stakeholders also talked about the challenges with serving fresh, more perishable food, as they spoil more quickly and often end up in the garbage if they do not sell quickly.

A few challenges were brought up less frequently that were specific to elementary schools stakeholders running food programs including not having proper facilities or equipment, keeping programs simple so they run easily, and finding school stakeholders/volunteers to help run the program.

These challenges identified by food providers affect which companies end up catering to school cafeterias, and what resources are available to support elementary school food programs, which ultimately affects what foods are available to students. It is important to note that these reported challenges were not related to the policy; additional policy-related challenges will be discussed in the next chapter.

#### **5.3.2.4 Other school environment influences beyond food availability:**

Other influences in the school environment (beyond food availability) that have potential to impact students' food behaviour are: 1) school lunch rules; 2) school activities that promote healthy eating and; 3) school cafeteria marketing and promotion activities.

##### ***5.3.2.4.1 School lunch rules:***

School lunch rules also played a significant role in influencing student behaviour.

According to student and parent focus group data, four of seven elementary schools reportedly had a school rule in place that did not allow its students to leave for lunch. One parent explained,

There's certain limitations depending on the grade that you're in that, A: you're not allowed to leave the school without parental consent [yeah] or B: it has to be a certain walking distance, and there's a whole bunch of legalities as to why they can't leave.

A few participants reported that student safety was one of the main reasons for these rules. Four other elementary schools required students to get parent permission to leave school premises.

#### *5.3.2.4.2 School activities promoting healthy eating:*

Table 5.3: Summary of factors contributing to healthy eating promotion in the school food environment

- |   |
|---|
| <ul style="list-style-type: none"><li>• Healthy eating in education/curriculum</li><li>• Teachers promoting healthy eating/discouraging unhealthy eating</li><li>• Nutrition/wellness clubs</li><li>• Food &amp; fundraising</li><li>• Healthy eating posters/murals</li><li>• Events promoting healthy eating</li><li>• Promoting local/cultural foods</li></ul> |
|---|

Participants discussed whether healthy eating was promoted in the school. Most participants (mostly school stakeholders) reported that healthy eating was promoted in the school; and one participant reported that healthy eating has always been a priority. Other participants felt that it was promoted; however, barriers existed. One participant described it as ‘a fight’, while another explained how it is currently not important to the school board:

What you really have to understand is that [healthy eating is] not a pillar...It is important, but if you look at the board's pillars, it's not health and wellness. It's there, but it's a component within another pillar. [...] Eventually it will become its own pillar.

Fewer participants, all of them students, felt that healthy eating was not promoted in the schools. One secondary school student described, "from what I've seen, they don't really put up posters about eating healthy or anything and there's not really like a club for like making healthy food or anything. So I haven't seen it around here. [...] all they do is give us cookies and pizza and stuff".

While a few student groups were not aware of healthy eating promotion happening in the school, many participants described a variety of ways nutrition and health were promoted. The most reported example was through education, specifically, food and nutrition, health, or hospitality classes. Elementary students were more likely to learn about nutrition in health class. Meanwhile, secondary students had access to specific electives including food and nutrition, hospitality or gym classes where healthy eating was taught and promoted. Students and school stakeholders discussed learning about/teaching Canada's Food Guide as part of the curriculum for nutrition education. Two secondary school teachers discussed teaching food skills in health class; one noted, "I'm biased because I teach it, but I think it's a really great program because they're learning how to make healthy foods and they're also learning what's healthy and why it's healthy". While a few school stakeholders discussed teaching P/PM 150 specifically in their classes (which will be discussed in more detail in the results related to P/PM 150), participants explained that hospitality classes do not necessarily follow the guidelines, as the class is meant to teach students the skills needed for working in the food industry which doesn't follow specific guidelines. For instance, they

explain how students need to learn how to use a deep-fryer if they want to work in the food industry, which is not permitted as per the policy.

Mostly elementary school parents and a few secondary school stakeholders discussed the role of teachers and school staff in promoting or being role models for healthy eating. Some participants discussed teachers discouraging unhealthy foods from being brought in to school. One parent explained “if a child brings in a can of coke or gingerale or something, then it’s...you know, it’s like ‘you know you shouldn’t be bringing that to school’. Some also discussed peers having an influence on healthy eating habits, with one parent group explaining that students who get fast food on a regular basis get teased by other children. Three of the secondary school teachers that participated in an interview described themselves as promoters or advocates of healthy eating in the school and that they “practice what [they] preach”. Although, a few comments were made about teachers not being good role models for students by bringing in coffee or fast food into the school.

Six schools (4 secondary, 2 elementary) reportedly had a nutrition/wellness club or health action team in place which promoted healthy eating to all students in the school. These groups had multiple purposes often promoting more than just nutrition including, “talk[ing] about healthy eating habits, body image, mental health and physical fitness” (Secondary school stakeholder). One elementary school had a cooking club that exposed and promoted new healthy foods to the whole school weekly. It was noted by a few school stakeholders that running these clubs takes a lot of time and power and with more support, they would like to expand their programs.

All stakeholder types (students, parents, school stakeholders, food service providers) discussed food and drinks being used for fundraising purposes. Bake sales and desserts were considered the ‘biggest money makers’ according to elementary school participants. Participants from four different schools (1 elementary, 3 secondary) reported having non-food fundraisers, or if they did sell food, they followed the policy guidelines using the ‘Bake It Up’ cookbook which will be discussed later in the policy specific results. One secondary school teacher explains “I am the expert on the policy in the school...If someone wants to run a fundraiser event that involves food [...] they often talk to me about what they can serve or they have their idea and find out if that’s acceptable”.

Posters and murals were also used in schools to promote nutrition, more so in elementary schools. Students describe posters “in the classroom that says ‘get active!’ and ‘eat healthy’. Like the kids in a bus and there’s an apple in the aisle” (elementary school student). School stakeholders explain that posters were either received through the health unit, or through grocery stores. One secondary school stakeholder got ‘Eat well’ posters and explained “if you notice in the cafeteria we have hung big posters...guess where I got that from? Loblaws! Cause I shop at Loblaws and I say ‘oh look at this’ so I went up and talked to the people there [...] and I said to them ‘when you change over to new ads, could you please not throw them out’, so I went to Loblaws and collected them”.

Lastly, a few participants (from all school levels) talked about promoting healthy eating through school events; they either held wellness days or health fairs that promoted healthy eating/healthy living or they only served healthy options during school events

unrelated to nutrition and wellness (i.e., tournaments). One physical activity teacher commented,

I know that when we're running things like...if we're selling food at a volleyball tournament or something like that, we need to serve healthier options. So we don't sell pop. We sell juice and water. We don't sell chips. We'll have granola bars. That sort of thing.

Two participants also discussed trying to promote ethnic/cultural foods as well as local foods in the school as best they could. For example, one food provider specifically talked about working with an eco-group to promote local foods in the school.

#### *5.3.2.5 School cafeteria marketing and promotion activities:*

Secondary school stakeholders, students and food service providers commented on the cafeteria environment. A few students reported that their cafeteria had a good environment and it was considered a ‘place to hang out’ (secondary school student). There were a few ways that cafeterias reportedly promoted themselves to students including marketing, promotions, samples, coupons, and events. A few schools described cafeterias giving out samples of food while others gave students coupons to buy food on campus. One food service provider explained that they had done marketing initiatives, for example, “we did a two-for-five...so [students] could mix and match any of the different items, like all the express items, parfaits, salads, sandwiches, all sorts of things [...] you could mix and match them – two for five dollars. That was a big success this year”. Schools have also tried to keep students on campus by running events during lunch hour, such as organizing videogame tournaments, battle of the bands, dance-offs, etc.

Some food providers reported feeling limited in what they could do to try and enhance the cafeteria. One provider explained “well we can put up posters and things like that, but its school property. So we can put up the posters, but nothing more than that really”. Participants from two schools talked about microwaves in the cafeterias. One secondary school teacher felt that not having microwaves in the cafeteria prevented students from bringing food into the school and how they were popular at other schools. Students from one secondary school focus group mentioned that their cafeteria had relatively new microwaves and there was excitement when they came in; however, they did not report using them because...

Student 1: they're so disgusting!

Student 2: and if people's food like bubbles over, it just hardens in there

Student 3: if they were cleaner, I think more people would want to use them because sometimes like I used to bring food that I would warm up, like I don't want to eat it cold cause it's kind of gross

### **5.3.3 Community/Outside Food Environment**

#### **5.3.3.1 Food availability:**

All participants (except for food service providers) were asked what food/drinks were available outside of school. Seven schools reported having few or no food outlets located close to the school. These were mainly elementary schools or schools located in Caledon, a largely rural municipality within the region. In contrast, participants representing schools located in Mississauga, a large urban city within the region, reported the presence of multiple food outlets within walking distance. In this community, it was also more common for secondary students to report having food outlets nearby compared to elementary students.

These included (from most to least common), fast food outlets, convenience stores, coffee shops, restaurants and malls with multiple food vendors.

#### **5.3.3.2 Outside foods are more appealing to students:**

Secondary school participants (students and school stakeholders) spoke about food outside of school being more appealing in a variety of ways. This was another frequently reported reason as to why students would leave school grounds. Participants discussed cafeteria food being ‘boring’ and having limited variety, while outside vendors had better variety and better pricing. One secondary school teacher even explained that outside vendors deliver right to the school, so students are still able to access outside vendors without leaving school grounds. She explained, “there’s so many convenience, fast food restaurants around the corner from us...a Chinese restaurant [will] even deliver in front of the school, so the kids can actually walk to the building in front of the school and they’ll actually kind of drive up and apparently give it to them there”.

#### **5.3.4 Section 5.3 Summary (Food Environments that Influence Student Food Behaviours)**

Students are exposed to food options in multiple environments, including the home, school and community environment. While participants were not asked specifically about the home environment, they did discuss the influence of parents and family socio-economic status on students’ food choices.

Participants discussed many aspects of the school food environment, including the food availability, factors influencing school food options and decisions, as well as other potential influences. In terms of food availability, many food and drink items were available

to students at school, either through vending machines, school lunch days in elementary schools or cafeterias in secondary schools. A few of the schools also had nutrition programs and/or school stores/tuck shops. Adult participants discussed factors that affected how and what school foods were chosen, including students' food preferences (surveying students), variety, food price, and presentation. Other factors were discussed by participants that went beyond food availability: they included school food rules (i.e. not allowing students to leave school grounds at lunch), healthy eating promotion activities within the school, and marketing and promotion of the secondary school cafeteria. School stakeholders were more likely to report healthy eating being promoted in the schools compared to students.

Participants that spoke about healthy eating promotion activities in the school discussed: nutrition being taught in the curriculum (nutrition, hospitality, physical education, or health classes), teachers and school staff role modeling healthy food behaviours, the presence of/participation in nutrition-wellness clubs/health action teams, use of healthy foods for fundraising, as well as posters/murals and school events promoting healthy eating and nutrition.

Student food behaviours were also influenced by foods available outside of school; however, student food behaviours seemed to be largely determined by school location, with higher density of food outlets surrounding schools in Mississauga and Brampton compared to Caledon which is more rural. One of the main reasons students' reported leaving school grounds to purchase food was that 'outside food' was more appealing and often offered better value for money.

The above results reported on school food, typical student food behaviours as well as factors influencing those behaviours that were unrelated to the policy. The next chapter will present results specific to P/PM 150, including a) stakeholders awareness and knowledge of P/PM 150, b) policy likes and dislikes, c) implementation processes (including successes and challenges with policy implementation), and d) potential and/or actual impacts of the policy on schools, school food, and food behaviours.

## **Chapter 6**

### **RESULTS: THE ONTARIO SCHOOL FOOD AND BEVERAGE POLICY (P/PM 150)**

#### **6.1 Knowledge & Awareness of P/PM 150 by Participants**

##### **6.1.1 Knowledge of P/PM 150**

All focus group participants were asked whether they had heard of P/PM 150 and what they knew about it. An equal number of students reported having heard about it as those that had not. Most students reported ‘sort of’ knowing what it was, or they knew it as a different name or knew after prompting. For example, when asked if they had heard of the new policy, one elementary student clarified, “a [policy] that our school has? Ummm, I don’t know. I’ve heard about it but I don’t really know what it is. Is it the sugar limit thing?”

When students were asked what they knew about it, they thought that it meant that foods had to be healthier in schools. A few others reported simply noticing the change in food and that’s how they found out. The majority of participants who knew about P/PM 150, heard about it either in class or through a teacher/principal, in the news or through other media (radio, YouTube), or heard about complaints from students in other schools.

Most elementary school parents who participated in a focus group had heard of P/PM 150; however, just 19 of 46 secondary school survey respondents reported having heard of P/PM 150. Elementary school parents who were aware of the policy mostly knew about it through parent council, whereas secondary school parents reported having heard about it through media (TV, radio, news) or from their child at school. A few elementary school participants were very knowledgeable regarding the policy, as they were involved in food

ordering. One parent explained, “I’ve been to a few things on it through council and I’ve read it myself because I’m one of the people who’s ordering food for things, and so, you know, the principal will say ‘Is that compliant? What’s compliant? What’s not?’ She would like to report on those kind of things, right?”

Focus group participants specifically were asked about their knowledge of P/PM 150 contents. Most participants (parents and students) were unaware of the policy details, but knew that ‘unhealthy’ foods were being replaced by ‘healthier options’, or that unhealthy foods were banned. They knew the focus was on giving students healthy options where they limited sugar and salt in foods and that its purpose was to teach students about healthy eating practices. A few participants discussed the exemption days as well. Parents seemed to be more knowledgeable with policy contents, perhaps because most participating in focus groups were parent council members. One parent stated, “the long and short of it is a school can’t sell things that fall within a range of salt, fat, and what’s the third thing? So it has to fit this criteria...fit this parameter. And then you get exemption days too.”

Students knew the contents more generally as described by these quotes: “I heard it’s like everything has to be healthy. They’re taking out all the greasy food and stuff” (secondary school student); and, “I got a letter last year and it talked about [the policy] and it was just explaining to us how there are new guidelines for what can be served in the schools, and also, like, if you want to have another type of food, it has to be approved or something like that” (secondary school student).

### **6.1.2 General Awareness of P/PM 150 within the School and Home Environment**

When focus group participants were asked if they felt that others (students and parents) were aware of the policy, there were mixed results. Parents' feelings varied regarding whether they felt that other parents in the school were aware. One elementary school parent stated,

I don't think the average parent is as informed as maybe they should be. [...] That's the way I feel because when I've mentioned it to parents, they are looking at me going, 'what is this all about? Cause we've never received anything from the school indicating what this whole thing is. Like we know about no. 150, but that's all it is. It's a number.'

Most parents felt that parents who were more involved in the school would be aware, but those that do not come into the school probably wouldn't know about it. On the other hand, participants felt that parents should be aware because "anything that [they've] sent home for the food program, states 'this fits within the guideline of the Ontario's policy.'" Students also felt mixed about whether their parents or other students' families were aware of the policy.

Similar results were found when participants were asked about students' awareness of the policy. Some participants felt that students were unaware or they couldn't tell the difference between the old and new food, while others felt the changes were more dramatic. One parent group that was in charge of elementary school food ordering noted,

Parent 1: and the interesting thing is, that [students] didn't...like we didn't say anything. We just...

Parent 2: kept it a secret

Parent 1: We didn't tell them, and they all knew. Automatically. They noticed that it was whole wheat right away.

Parent 2: We can't pull any wool over their eyes.

Some secondary school participants (students and school stakeholders) felt that certain groups in the school are more aware. For example, the students in food and nutrition class would be more aware of the policy since they learn about it in class. Others felt that perhaps older students would notice differences in food more because they were more used to the old food.

#### **6.1.3 Section 6.1 Summary (Knowledge & Awareness of P/PM 150 by Participants)**

Overall, there were mixed results as to whether student and/or parent participants knew about the policy. About half of student participants knew about the policy, or knew that school foods became ‘healthier’. Elementary school focus group parents were more likely to know about the policy compared to secondary school parents who participated in the survey (most likely because parent focus group participants were usually council members).

Generally, parents were more knowledgeable of policy contents compared to students. In terms of policy awareness in the school, there were again a mix of responses; participants felt that parents at home should have been aware of the policy through newsletters. Participants felt that students who were involved in hospitality and foods classes would be aware of the policy.

### **6.2 Participants’ Perceptions about P/PM 150 (Positive/Negative/Mixed/Neutral):**

#### **6.2.1 General Thoughts**

All participants were asked what they thought about P/PM 150 and specifically what they liked and/or disliked. Some general comments were made about the policy. For instance,

elementary school parents felt that the policy applied more to secondary schools, rather than elementary. Four groups of parents discussed the fact that parents still have a greater influence on elementary student food behaviours and elementary schools do not have cafeterias. One parent stated:

[In high school they have access to a cafeteria] and they're older and they're making their own money, so they're choosing where to buy their food. We get the option [in elementary schools]. It's not up to the kids. But in high school, it's not up to the parents as much.

Not only do students have access to cafeterias, but also to food/hospitality classes where the policy could have a more significant impact. Parents did also mention that secondary students were also more likely to leave school grounds to find food elsewhere which could limit the effectiveness of the policy. It was added by two secondary stakeholders that the policy may be more effective at the elementary school level for that reason. One stakeholder explained:

I will add that I think that this policy is better for elementary schools. Like, it's extremely hard to regulate what high school students are doing, because they have the freedom to leave and go wherever they want and bring whatever they want to the schools. [...] I think [elementary schools] are where it's going to make the biggest difference.

In addition to feeling that the policy was more relevant in either elementary or secondary schools, two groups (one group of elementary parents and the other secondary students) also discussed the fact that new students will not know the difference between what used to be served at school compared to what is being served now.

The last general comment regarding the policy was raised only by students who felt somewhat confused by the policy, or confused as to how it will make a change in students'

behaviour. Some students felt that even with the policy in place, students will still access unhealthy foods. One student expressed, “unhealthy food that we can’t eat at school, we can eat at home. So it’s not really....I don’t know how to...it’s not like a change. You could go home and eat that cupcake...so it is still really not much of a big deal” (elementary school student). Some also expressed confusion that unhealthy foods are still being served in the school. One secondary student explained:

Okay, so they’re talking about this policy and healthier foods. Like it started a year or two ago....like, umm but they still serve some unhealthy foods. Like they have subtracted stuff but still kept some of the junk food, so it’s a little...I don’t know...confusing.

### **6.2.2 General Reactions to P/PM 150**

Mostly, participants reported a negative response to the policy (especially secondary school students). This was not surprising as one of the challenges reported by stakeholders was student protest and rebellion. Participants spoke about resistance to the policy and concern when the policy was first introduced. One secondary school stakeholder described the students’ reaction as follows:

I don’t think the students liked it. I had a lot of kids actually complain to me and joke around because they knew I was going to these meetings about it. They were kind of like ‘is all of this your fault?’ and not really happy because they noticed that there was a taste change in the food ...and the sizes were smaller.

One school stakeholder reported negative school staff reactions as well:

I sort of felt, when I presented the information to the staff, it was like ‘oh my goodness! I can’t believe they are implementing this. Like I’m not going to be allowed to have this and that!?’ And I was shocked by that reaction because like, like we’re a pretty progressive school with pretty young staff [...] and everybody would sort of be like ‘we could have these secret coffee things’.

While negative reactions were reported, many participants were not shocked by the policy (mostly elementary school students). They explained that it made sense because of the obesity and diabetes epidemic, and that the policy was in place for the good of students' health. Some elementary student reactions included: "[It doesn't surprise me] because it is an issue in some of the schools 'cause it's not healthy to eat junk food. So I understand why they need this policy" and "I think a lot of people are trying to get into a healthier mood...and to show us what are bad foods and what are good foods".

Those who felt shocked about the policy made reference to the speed of implementation and surprise about choices in government spending. An elementary student group explained that "I think it was sudden and they didn't give us any notice or anything. It was just like a surprise", while parents explained, "I'm surprised that our tax dollars would actually go to starting [a policy] like this. I think that they would spend their money a bit wiser."

The following section will review participants' responses to the question "what do you like/dislike about P/PM 150?" This data were collected from all stakeholder groups through qualitative interviews and focus groups, as well as open ended questions in the student 24-hour food recall survey, and the secondary school parent survey. Overall, more survey respondents (all students and secondary school parents) reported liking the policy compared to disliking the policy (645 responses positive responses versus 298 disliking the policy). Based on focus group and interview data, participants reported both liking and

disliking the policy fairly equally; however, there were slightly more instances of reports about what they disliked.

The following table presents the most common positive, negative, mixed and neutral comments regarding P/PM 150 reported by participants from all data sources (focus groups, interviews, surveys). The table depicts which participant groups reported each theme (like/dislike) which is signified by an ‘X’. Some reported ‘likes’ and ‘dislikes’ were brought up by participants in a different context (i.e. challenges to implementation); those comments are not captured in this table. Also, note that the term ‘instances’ refers to the number of quotes that were coded to each theme. Following the table, further description of each theme will be provided in order of most frequently reported, to least frequently reported.

Table 6.1: Most common positive, negative, mixed and neutral comments regarding P/PM 150 by participant type

CATEGORY	MOST COMMON THEMES		FOCUS GROUPS			INTERVIEWS			SURVEYS		
	In descending order of frequency	Elementary Students	Secondary Students	Elementary School Parents	Elementary School Stakeholders	Secondary School Stakeholders	Food Service Providers	Elementary Students	Secondary Students	Secondary School Parents	
<u>POSITIVE COMMENTS</u> <i>(total positive instances = 711)</i>	General comments: 'I like the policy'	X	X	X	X		X	X		X	
	Policy promotes healthy eating/ students' health	X	X	X	X	X		X	X	X	
	Increases students' access to healthy foods	X		X	X	X		X	X	X	
	Policy valuable for students who have bad eating habits/less active							X	X		
	Schools should be promoting healthy lifestyles							X	X		
	Healthy eating is important to students' education			X	X	X		X	X	X	
<u>NEGATIVE COMMENTS</u> <i>(total negative instances = 460)</i>	General comments: 'I don't like the policy'	X		X		X	X	X	X	X	
	Takes away freedom of choice	X		X	X	X		X	X	X	
	Schools already lacked food variety – policy will make it worse	X	X	X		X		X	X		
	Negative effect on the taste of food							X	X		

	Negative &/or no perceived effect on student food behaviour							X	X	X
	Stakeholders do not like policy content (too extreme)	X		X		X	X			
	Negative effects on revenue/ fundraising		X	X		X	X	X	X	X
<u>MIXED COMMENTS:</u>	... feel that some treats should be allowed	X						X	X	X
<u>THEY LIKE THE POLICY, BUT...</u> <i>(total 'mixed comment' instances = 266)</i>	...they worry about effects of taste variety	X						X	X	X
	...they have some concerns about the policy itself (enforcement/ implementation, unintended consequences)				X	X		X	X	X
	...won't affect behaviour – students will find food elsewhere							X	X	
<u>NEUTRAL COMMENTS:</u> <i>(total instances = 268)</i>	Participants don't care about the policy/ feel neutral about it	X		X				X	X	

### **6.2.3 Positive Responses to P/PM 150**

**Table 6.2: Summary of Positive Responses to P/PM 150**

- |   |
|---|
| <ul style="list-style-type: none"><li>• Promotes healthy eating and healthy lifestyles for students</li><li>• Increases students' access to healthy foods</li><li>• Important for students who have unhealthy habits in general</li><li>• Schools should be promoting healthy eating as part of students' education</li></ul> |
|---|

When asked about their thoughts on P/PM 150, the majority of participants had positive responses. Most participants made general positive comments, for example, “I feel that it is a good policy”, “I think that it’s a good healthy alternative”, and “ I think that it’s a good thing that people think that the foods in schools should only be healthy snacks.” Many participants also gave specific reasons for liking the policy.

#### **6.2.3.1 P/PM 150 promotes healthy eating and healthy lifestyles for students:**

Many participants reported liking P/PM 150 because it promoted healthy eating and overall student health. They explained that it addresses rising rates of obesity, diabetes, and heart disease in Canada. One elementary school student noted, “I think it’s a good thing that like they’re trying to get kids to eat more healthy because we don’t really want to end up like the States with that amount of kids with obesity and type two diabetes.” They explained that promoting more nutrients and limiting sugar, salt and fat would benefit students’ overall health.

Furthermore, participants felt that the policy would either keep kids healthy, or get them on track to a healthier lifestyle. Participants mentioned that the policy would help students “cut back on sugar” and “teach students good food habits” (two secondary school parents). Students also felt that the policy was in their best interest because, as one

elementary student explained, “[the policy] is a very good idea because it is important for kids like us to have necessary nutrients.” In addition, participants (mostly students) explained that eating healthy was ‘good for the brain’ and for student energy levels, as described by this student: “I think it’s a good policy. Eating healthier foods not only gives kids more energy, but allows them to perform better academically.” Lastly, participants reported liking the policy because it showed that the Ministry cares about kids’ overall health.

#### 6.2.3.2 P/PM 150 increases students’ access to healthy foods:

Participants also mentioned that the policy would increase students’ access to healthy options and that schools are an important setting to ensure healthy foods are available. One elementary parent commented, “I think as a school community, if you can help the kids that don’t have an idea of healthier living and eating, you know...that you can still eat pizza, but it can be eating with whole wheat crust. Maybe some kids don’t know that, so that’s, you know, definitely a pro that there is another way and that there are healthier options.” Some participants explained that increasing access to healthy foods “makes the healthy choice the easy choice” (secondary school parent). A few parents also noted that the policy could provide a safety-net for those students that don’t have access to healthy foods at home. One parent noted that “if the school is supporting [healthy eating], it builds a little bit at a time. It’s not going to make a drastic change all over, but I think it has the potential.”

#### 6.2.3.3 Policy is important because some students' have unhealthy habits in general:

While some participants felt that the policy would provide a safety net for students that don't have healthy options at home, many students reported that other students in their school had unhealthy eating and physical activity habits in general, so the policy would promote healthier habits. Student survey participants explained: "I feel [the policy] is a good decision. Students nowadays eat really unhealthy food, including myself", and "I agree with it because children are getting less active and eating less healthy, so this might change that fact and help children be more healthy."

#### 6.2.3.4 Schools should be promoting healthy eating as part of students' education:

Many participants discussed the fact that schools are meant to educate students, and healthy eating should be a part of their education. One student explained that the policy "makes a lot of sense. It encourages kids to be healthier and that's a good thing because many people don't get that kind of encouragement at home. The fact that schools are doing it is going to benefit our society in a very good way." Another felt that "schools should be encouraging students to be eating healthy foods". In addition to schools being an important setting for healthy eating promotion, participants also discussed the fact that schools need to help educate students on healthy eating and the importance of healthy eating. One school stakeholder explained that "what's available at school is part of the education process. There are healthy options out there. If you're going to have pizza, you can have pizza with less salt, low fat pepperoni...you can make those kinds of choices and kids need to know." Some mentioned that schools should practice what they preach where one elementary school

student explained that the policy “is a good idea because school teaches us about health and if they give us unhealthy foods, there is pretty much no reason to teach us about health.”

#### **6.2.3.5 Other less frequently reported positive comments:**

A few less frequently reported positive comments included: participants liking certain aspects of the policy (no pop, no deep-fryers); students’ learning that they like healthy foods; and students might get used to eating healthy foods. A quote from an elementary school parent illustrated these last two views: “Some kids are getting...their parents are giving them healthier things. So, if they can choose those at school, some of them will right? But they’re not all used to it. But the more used to it they get...they, you know, they will choose it.” It is also interesting to note that when secondary school parents were asked in the survey, ‘what do you dislike about the policy?’ the majority of parents responded with ‘nothing.’

#### **6.2.4 Negative Responses to P/PM 150**

Table 6.3: Summary of negative responses to P/PM 150

- |   |
|---|
| <ul style="list-style-type: none"><li>• Takes away freedom of choice</li><li>• Negative impacts on taste and variety of food options</li><li>• Students should be able to access unhealthy foods</li><li>• Won’t impact (or will have negative impact) on students’ food behaviours</li><li>• Issues with policy content</li><li>• Negative impacts on revenue, fundraising and affordability</li><li>• Policy doesn’t take into account other factors (i.e., home environment)</li></ul> |
|---|

While most participants had positive comments relating to P/PM 150, many participants had some concerns about the policy. Many participants had general comments about their dislike for the policy, including: “it sucks”, “horrible. I hate it a lot.”, and “I don’t

like this new policy. I think they should bring back good food and lower their prices.” Again, participants had specific reasons for disliking P/PM 150 which will be explained below.

#### 6.2.4.1 P/PM 150 takes away freedom of choice:

Many participants felt that the Ontario Ministry of Education was over-stepping their boundaries by introducing this policy into schools. They felt that what students eat should be the students’ or the parents’ choice. One elementary school parent explained “I think [the policy] is uncalled for and I think it’s overstepping boundaries. So you want to teach kids healthy eating habits, you want to teach them how to read labels and stuff. Absolutely! Have a unit that lasts a week...let them take that information home to their parents and families and that’s it...leave it be.” Some parents explained that teaching children about healthy eating has to come from the home environment, not the school. A parent explained,

I don’t like anything about the policy...we can’t change what the kids are eating at home. It’s not up to us in one lunch hour to make their healthy eating habits. It starts at home...it shouldn’t be the school. I mean they put so much onus on the school disciplining of kids, babysitting of kids and now feeding your kids...I just don’t like someone telling me how I’m supposed to feed my kids. And that’s the way the general consensus is about a lot of parents.

One group of parents even described the policy as a “slap in the face to a lot of parents to yet again tell them that they’re already doing a poor job raising their kids without even giving anybody a chance to do it.” Students also felt the same way as they stated, “I don’t think schools should be controlling our eating habits”, “we are old enough to choose if we want to eat healthy or not” and “we are old enough to make our own decisions, and we don’t need adults babying us.”

#### 6.2.4.2 P/PM 150 had negative impacts on taste and variety of food options:

Many participants felt that P/PM 150 negatively affected the taste and variety of school food. Participants reported noticing a difference in food quality and variety after the policy was put in place. Some comments included: “I don’t like it ‘cause the food tastes disgusting now”, “I feel that the menu is limited. There is a difference between what is healthy and edible as opposed to what is just gross but healthy to eat”, and “I don’t like [the policy] at all because there are not a lot of options to choose from, and they don’t taste that good.”

#### 6.2.4.3 Students should be able to have unhealthy foods:

Similar to the feeling of taking away freedom of choice, students did not understand why the Ontario Ministry of Education made the decision to take away all ‘junk foods’. Students explained that they should be able to have some unhealthy foods once in a while. One elementary student stated, “I don’t like [the policy] because we need some bad food! If our parents want us to have healthy food, then they can pack it for us. We need more than one choice of food.” A few students explained that they are kids and that they don’t need to worry about eating healthy all of the time. A secondary student noted, “I’m not happy. We are young and we don’t really need to worry about what we eat because we will most likely burn it off!”

#### 6.2.4.4 Policy either did not affect OR had a negative effect on students’ food behaviour:

Participants felt that even with the policy in place, students still had bad eating habits, as one student explained “I don’t like [the policy] because I don’t buy healthy food

anywhere, let alone at school”. They explained that the policy wouldn’t make a difference in their food behaviour as they are still able to access unhealthy options. Some participants explained that the policy even drove them to try and find unhealthy options. Student participants stated, “I feel [the policy] is pointless cause kids just leave school to get the food they want anyways from the plaza”, and “if the [food changes], I’m going to just crave sweets and then try to find the secret stash my dad hides.”

#### 6.2.4.5 Participants disliked some of the policy content:

Adult participants expressed some concerns regarding the policy content. For example, some felt that the policy did not necessarily reflect ‘healthy eating’ as it was focused too much on reading labels. They explained that it didn’t teach students about general healthy eating concepts such as portion control, balance, and how to make healthy choices outside of the school environment. One secondary school stakeholder explained that the policy took away “the joy in eating” and that it was more important “to teach these kids how to portion control and balance [their eating]. Not so much these numbers and how much sodium, and this and that.”

Some food service providers and school stakeholders also felt that the policy had ‘loopholes’ which sent mixed messages to students about what is healthy. They explained that many times unhealthy products actually fit the guidelines when the healthier products did not. One secondary school teacher explained that according to the policy, “diet pop is a healthy alternative...and on one hand we are saying ‘don’t drink pop’, but ‘oh that’s okay, you can drink diet pop.’” One parent group also explained that baked chips were allowed, but

regular chips were not, and they explained “my problem with that is that you’re trying to promote healthy eating and stuff, but you’re still saying potato chips are okay. And at the end of the day you can still try to educate the kids about a label, but in their mind, potato chips are okay.” A few participants also noted that the policy limits portion sizes, but there is no limit on how much of a product students can purchase, so for example, “they’ve changed the size of the pizza to make it meet, but [students] can technically buy as many slices as [they want]. So in fact, you could have three days of your sodium in one lunch”.

In addition to the policy sending mixed messages to students, participants often felt that the policy was too complicated and too ‘extreme’. One participant stated, “I think [the Ministry] has been too stringent. Do you know that they can’t even sell gum in the cafeteria?” while another explained “I get there is a need for a change, but I think it’s been too much of a change.” In terms of the policy being complicated, one parent group in charge of food order days explained “I just think they’re making it too complicated. And it’s like it’s being forced on us. It’s not something that we were even given a choice. It’s like, you know, ‘do it’.”

#### 6.2.4.6 P/PM 150 negatively affects revenue, fundraising & affordability:

Students explained that the policy limited fundraising and revenue for the school as well as reduced the affordability of school food. One student explained “I think the policy is ridiculous. If teenagers want unhealthy food, it’s easy to walk somewhere to get it. The school is just losing profit by deciding to not sell things like pop or other unhealthy

products.” While many students brought up revenue, fundraising and affordability, one secondary student summarized all of these themes very well:

I find the food policy has not made a huge difference other than changing food in the vending machine or adding a salad bar in the cafeteria. The salad bar food is quite expensive. The cafeteria still carries food such as pizza and fries and hamburgers. Though the new policy does make it difficult to raise money for we only have 10 events per year. The healthy baking food does not taste as good and is more complicated to make with strange ingredients. Cafeteria food is not worth the price for most of it tastes very bad so I prefer to go to the nearby Tim Hortons.

#### 6.2.4.7 P/PM 150 has limitations – doesn’t take into account other factors:

Participants noted that P/PM 150 doesn’t take into account other environments, such as the home and community. Many felt that the home environment would still have the largest influence, especially for elementary school students. Participants explained that the policy does not control what gets brought from home and students are still likely to bring in unhealthy options, especially if they can’t get it at school. Adult stakeholders explained that students learn about nutrition from multiple external means including the home, parents, and media, so the school environment is just one small factor.

In addition, participants stated that the policy can only go so far to address obesity, as other factors (i.e. culture, cost of food, socioeconomic status, and students’ specific dietary/health issues) would also have a significant impact. One parent explained, “If you’re in a household where both parents are working...it makes that parent feel guilty that their kid’s now coming home saying ‘you’re a bad mom, you’re a bad daddy because you’re not giving me A, B, and C...A lot of people are on a budget and a lot of people can’t afford to

spend a hundred dollars on just fruits and vegetables...specifically in this neighbourhood.”

They explained that there are many factors that contribute to students’ health and weight status:

I have five children, and if you line my kids up, you would say, ‘oh that one, that one, they must be the couch potatoes and sit around and do nothing’, but my two skinniest children, the only exercise they get are from their thumbs [playing video games] and eat junk, and my heavier set kids are my most active and eat the healthiest, so you can’t say that it’s one thing. (elementary school parent)

A few participants also noted the policy does not take into account physical activity, and perhaps the focus should be on increasing physical activity levels instead of changing the food environment.

#### **6.2.4.8 Other less frequently reported negative comments:**

A few other concerns were mentioned less frequently, including participants thinking that the policy will not work because it is not well designed, and they had concerns about the implementation. For example, they felt that the policy came in too quickly with no warning or time to prepare. They stated that there was no transition so students could get used to it slowly; instead students noticed an immediate negative change in school food.

#### **6.2.5 Mixed Responses to P/PM 150**

While participants were able to identify positive and negative aspects of the policy, many participants had mixed feelings. Most participants who reported mixed feelings explained that they agreed with the concept of the policy, but they worried about many of the negative effects that were mentioned above in ‘negative responses.’ For example, many participants reported generally agreeing with the policy; however, they felt that access to

some treats and unhealthy options would not hurt. A few responses included, “I don’t think that ALL foods have to be healthy”, “[the policy] is good for the students, but they shouldn’t just take all the [unhealthy food] away”. Participants also noted that they agreed with the policy overall, but they had significant concerns about negative effects on food quality (specifically taste and variety), affordability of foods, and revenue loss for the school. They also worried that the policy would bring about negative food behaviours from students. All of these mixed feelings were described by one secondary school student:

I think it’s a good idea because it promotes healthy eating, however the problem is the prices are not very reasonable and sometimes the flavours are not desirable. I think they can do a better job in making it more appealing and at a better price so students would be more attracted/appealed to buy the foods (pizza and fries are cheaper and unhealthier but do a better job in sales compared to school over-priced fries); it’s not hard to make healthy food delicious and nutritious, more students should feel compelled to buy healthier options but that would only happen if school tried harder to make the foods more appealing. What I’m trying to say is that the foods being sold at school don’t look as good as the foods being sold at food chains. A cheaper, healthy, good tasting option would bring up school sales by a large margin.

In addition, when asked what they thought of the policy, some participants explained that the policy ‘is fine as long as...’ the food tastes good/is appealing; there is good variety; they add more food options; and they try to keep students’ favourite options.

#### **6.2.6 Neutral Responses to P/PM 150**

Approximately the same number of participants reported having neutral feelings about the policy as those who reported having mixed feelings. Neutral responses ranged from

participants explaining that they didn't care what happened to school food (i.e. "it doesn't matter to me") to feeling that the policy is 'fine' or 'reasonable' (i.e. "I'm fine with it").

### **6.2.7 Section 4.2 Summary (Participants' Thoughts about P/PM 150)**

Participants were asked what they thought about P/PM 150 and specifically what they liked and disliked. Some participants provided general comments such as feeling that the policy applied more to secondary schools, thoughts that new students would not know the difference between old and new school food, and feelings of confusion about the policy purpose, as students will still be able to access unhealthy foods from home and outside of school. When combining focus group, interview, and survey data, the majority of participants reported liking the policy, compared to disliking the policy. A lower number of participants had mixed or neutral feelings (with an equal number of participants reporting mixed and neutral feelings).

Common reasons for liking P/PM 150 included promoting healthy eating, providing access to healthy options, providing a safety net for those with bad eating habits, as well as the importance of schools 'practicing what they preach'. Common reasons for disliking the policy included: no freedom of choice; negative effects on food quality, variety and affordability; negative effects on student food behaviour; and concerns about the policy itself in that it doesn't teach students about portion control or balance. Rather, it sends mixed messages about what foods are considered 'healthy'. Other factors like environments, as described in Chapter 3, were felt to potentially trump the effects of the policy. Those that

reported mixed feelings thought that the overall concept of the policy was good, but they had the same concerns as those that reported disliking the policy.

### **6.3 The Process of Implementing P/PM 150:**

The following results describe adult participants' responses when asked about their experiences implementing P/PM 150. Topics included: transitioning to P/PM 150, activities that supported implementation, and resources and supports for policy implementation.

#### **6.3.1 Transitioning to P/PM 150:**

Participants, mostly food service providers and secondary school stakeholders, spoke about the general process of implementing P/PM 150 in their companies and schools. In terms of ease of implementing the policy, there were some participants (school food service) that said it was relatively easy to implement, while others described it as an 'adjustment' which needed getting used to. One of the biggest adjustments reported by school stakeholders and food service taking out some of the most popular, high volume items. Many secondary school participants (including school stakeholders and students) discussed the fact that coffee was not compliant. One principal described the reaction in their school: "people in the school started asking why they couldn't buy coffee in the cafeteria. And that was really how it came to light for the majority of the staff even!" This theme will be discussed further in the section outlining challenges with implementing the policy.

### **6.3.2 Degree and Type of Change to School Food After Policy Implementation:**

Food service participants were asked about the degree of changes to school food to be compliant with the policy. Three out of five food service providers explained that they did not have to make large changes to their food offerings, because they were already trying to make healthy foods available before the policy was introduced. However, it did not mean that they did not experience significant challenges in adjusting to the new policy.

Student, parent and school stakeholder participants were asked if they noticed any changes to school food. While participants from four schools (three elementary, one secondary) explained that they had not noticed changes in school food, participants from 13 schools (4 of which were secondary) did notice changes. Mostly, participants noticed the absence of certain items which is what informed them of the policy. When asked if there were noticeable changes, one teacher reacted: “Oh no. It has changed! A lot of it. Like the protein is gone. There’s hardly any protein in the diet anymore”. Many parents explained that they heard about the changes to school food through their child(ren). Students reported foods ‘disappearing’ from schools and/or cafeterias. One elementary school student explained, “we just saw things go away, go away and go away – and it’s like, when is it all coming back?” Many students noticed changes specifically with vending machine options. They explained, “The vending machine [where we could buy] sugary drinks. That went away. It got switched to water and real juice. Like real fruit juice – no sugar. Like it has like low fat milk now...” When students were asked if they saw changes to school food, stakeholders from six schools (two secondary) explained that food got ‘healthier’. One student stated,

Well, pretty much you can only really get like low fat, wholesome-ish food now ‘cause like as he was saying, the sub’s a whole wheat bun and there’s new cheddar cheese. You can only have like this low fat sub sauce so there’s no, like, any other condiments on it any more. And we can’t have the pizza subs anymore that used to be a favourite among people but it was too many calories, so they don’t have it anymore.

Participants noticed more than just the absence of certain items; in fact, participants reported more negative changes to school food, compared to positive. There appeared to be a relationship between negative thoughts on the changes made to school foods due to the policy and negative food behaviours. Students stopped purchasing school food and instead brought in or found unhealthy food from outside of the school.

### **6.3.3 Resources/Supports/Activities to Support Implementation**

Many resources, supports and activities were reported with the aim of helping schools and food service transition into the new policy standards. While participants were prompted with questions regarding support from the Ontario Ministry of Education and Peel Public Health, the most commonly reported (un-prompted) activities to support implementation were organized by interview participants themselves (school stakeholders and food service providers). The following section will describe the resources/activities and supports for policy implementation by stakeholder group.

Table 6.4: Summary of Resources/Supports/Activities to Support Implementation

- |  |
|--|
| <ul style="list-style-type: none"><li>• Organized by the Ministry of Education<ul style="list-style-type: none"><li>○ Creation of ‘Healthy menu committees’</li><li>○ P/PM 150 booklets</li><li>○ Website: nutrient calculator</li></ul></li><li>• Organized by Food Providers &amp; School Stakeholders<ul style="list-style-type: none"><li>○ Inquiring about creation of compliant products</li></ul></li></ul> |
|--|

- Schools ‘phasing in’ policy changes
- Piloting P/PM 150 in a few schools
- Presence of school champions – healthy eating & P/PM 150 promotion/grant applications
- Organized by Peel Public Health
  - Public Health Nurses working with schools
  - Posters promoting healthy eating
  - Peel Student Food Expo/Cafeteria Revolution events
  - P/PM 150 coordinators/consultants
- Other Meetings/Workshops/Presentations (where organizer was unclear)

#### 6.3.3.1 Organized by the Ministry of Education:

Participants discussed a few Ontario Ministry of Education activities to support implementation of the policy. According to participants, the Ministry set up ‘healthy menu committees’ that were meant to “look at how they were going to implement the actual policy” (food service provider). A few interview participants (teachers and food service providers) reported being involved in helping to create resources for the policy.

A few food service providers, elementary and secondary school stakeholders reported receiving one main resource from the Ministry – the policy booklet. One parent from a focus group discussed additional resources found on the Ministry’s website. They stated, “if you go on the Ministry of Education website, there’s now a nutritional calculator, but they’ve updated it where you can basically take a package off the shelf, put the numbers in and hit ‘calculate’ and then it will tell you if it’s a sell most or sell less item.” The rest of the focus group participants discussed the fact that this resource was relevant for prepackaged items, but not for homemade, fresh food. Only one parent focus group discussed Ontario Ministry of Education’s resources other than the policy itself. A few participants explained that the

resources given for policy implementation were either not used, or not helpful. Overall, of those participants who were aware of resources, not many of them were commonly known or used.

#### **6.3.3.2 Organized by food providers & school stakeholders:**

Most school stakeholders and food service providers described their own activities to help them transition to become compliant with the policy. For example, food service providers explained that when P/PM 150 was first presented to them, many compliant products did not yet exist in the food industry. Some of the food service providers actually approached the industry and food suppliers themselves to inquire about the creation and/or reformulation of new, compliant products. Not only did they need to create compliant products, but also find products that had compliant portion sizes. One provider explained that one of the popular products, Arthur's Smoothies, that were typically served in the schools only existed in a 300mL size container, while the policy only allowed the product in 250 mL size. This, again, will be discussed in more detail later in the thesis.

Other activities were also reported with the goal of helping schools and students adjust to the policy. Two secondary school stakeholders explained that their school cafeterias ‘phased’ in the changes a little bit at a time so there was not as much shock. One elementary school parent group that was in charge of ordering food said that they also tried to ease students into the new guidelines, but at their own expense: “We didn’t put the increase [in price] for the pizza’s this year because we figured the one transition at a time...I figured they needed to get used to the whole wheat thing before we raised the price.” Also, a few secondary school participants mentioned that some schools acted as ‘pilot schools’ to test the

new policy before it was fully implemented in September 2011. One secondary teacher explained:

You may or may not know but, we had a couple of pilot schools run the P/PM 150 for a year before it was mandatory to run it in every school. [...] and in that year when they were doing the pilot, I was trying to pilot some of the recipes for “Bake It Up” [the cookbook created with P/PM 150 compliant recipes] so I definitely talked to kids...and the general consensus was you know, ‘the food is terrible Miss’...But like they would have been telling me that even before P/PM 150.

There were many instances where school stakeholders took on a leadership role in championing the policy in the school, either by running activities to help with implementation as described above, or by promoting the policy and/or healthy eating in general. Some examples included, promoting P/PM 150 for all events (fundraisers) within the school, applying for grants to support the cafeteria, and/or conducting surveys with students to get their opinions on what they want to see in their cafeterias. One teacher explained,

I am the expert on the policy in the school. And then, if someone wants to run like a fundraiser event that involves food and they are not going to use one of our ten days, they will quite often come talk to me about what they can serve [...] I also encourage a lot of fundraising that does not involve food at all.

Even food service providers seemed to be aware about which schools had a champion present. One provider explained, “some [schools] are further along in the process than others. Like one of the schools, has done a lot...They’ve done surveys, they’ve applied for grants, they’ve done all sorts of different things...”. A few participants reported applying for grants, usually through Peel Public Health, which helped schools with healthy eating promotion, or policy implementation. One food provider explained that many grants are available, but schools do not apply for them unless there is a champion present. School food champions

seemed to have an important influence on the implementation process, which will also be discussed later in the factors influencing implementation section.

#### **6.3.3.3 Organized by Peel Public Health:**

Participants were asked specifically about support from public health, and as such, it was the most commonly reported type of support. The support received from the health unit sometimes related to P/PM 150, but sometimes simply related to health promotion in general. Seven of the school stakeholders reported working with their schools' public health nurse to help support healthy eating in the school. For example, one of the stakeholders explained:

Our public health nurse has been great! She gave us...helped us with the grant money. We got 800 bucks and we were able to buy materials to...to buy these nice...or to put up these nice bulletin boards we have in the café, you know, promoting healthy eating...so they've actually been very good.

Two stakeholders said they did not work with their public health nurse. Five others reported receiving posters from Peel Public Health promoting healthy eating.

School stakeholder and food service participants were specifically asked about two events run by Region of Peel Public Health: the Peel Student Food Expo and cafeteria revolution event. The project advisory committee requested these questions be added to the interview script, so as to get feedback from participants on the events. The expo and cafeteria revolution events were created to get students involved in creating compliant recipes for their schools, and creating more inviting cafeteria environments to keep students on campus. One secondary teacher explained, "the Region of Peel, they've actually been really good in trying to get every school on board and trying to run, you know, these conferences and trying to share ideas of what we're doing in schools and that sort of thing".

While a few participants reported successes with the expo (some felt it brought food providers and schools together), others had some concerns regarding the events. Some expressed that while they brought attention to healthy eating and allowed students to get involved in their cafeteria environments, they questioned the feasibility of using the recipes in the cafeterias and worried about how long the new menu items would entice a student audience. They also noted that the recipes were ‘very elaborate’ and that almost all the recipes created were ‘sell less’ items, which need to be limited.

Peel Public Health also hired P/PM 150 coordinators and consultants specifically to assist schools in implementing the policy. Participants were therefore asked about this assistance. All seven participants that spoke about working with the coordinators/consultants had to be prompted about this. According to them, coordinators/ consultants a) held events and meetings for school stakeholders involved in P/PM 150 implementation, b) worked with schools to run healthy eating events, and c) followed up to provide support for cafeterias implementing the new guidelines. A few participants also discussed audits or compliance checks being done for schools/cafeterias implementing the policy. Participants were unsure whether audits were done by P/PM 150 coordinators/consultants or if they were representatives from the board. One food provider explained the difficulties with auditing schools and checking for compliance: “there is only so much they can audit. It’s usually just the drinks and things that people can see. They’re not taking samples of hot food and having it checked and things like that. It’s a hard thing to initiate.”

#### 6.3.3.4 Other meetings/workshops/presentations:

In total, six of twelve secondary school stakeholders discussed attending presentations, workshops and meetings that related to P/PM 150. However, it was often unclear who sponsored these activities. Some participants understood that the events were organized by Peel Public Health and/or the food and beverage policy coordinators/consultants, while others thought they were led by the provincial government, the Ministry of Education, or the school boards. Some found the meetings to be very helpful as described by one secondary school teacher:

I personally went to the food and beverage meetings [...] I think there were three meetings altogether offered by the board. And they discussed [the policy] in detail. They gave us booklets and in the second one they gave us some materials to put up in the cafeteria, the posters mentioning about the food beverage policy.

Others felt that the meetings were not relevant to their context, particularly elementary school stakeholders. One teacher explained:

When I first started to go to the workshops for [the policy], they were basically talking about high schools. And I went to the person and I said 'but I don't have any of these facilities in the school I work in. We only just have desks and a table.'

#### 6.3.3.5 What resources and supports participants would find helpful:

It is interesting to note that when asked if any resources/supports would be helpful to them, participants did not have any suggestions. Food service providers specifically explained that they were 'pretty much on their own...to fend for [themselves]' as they were an independent business. A few participants discussed the fact that there was no funding given to schools and/or food service providers to support implementation. Many participants

explained that funding would be the most useful type of support, however, they knew that funding from the Ontario Ministry of Education was unrealistic. While no suggestions for supports were provided when prompted, participants did make a few recommendations relating to resources and supports at the end of the interviews/focus group, which will be discussed in the recommendation section of the results.

#### **6.3.4 Section 4.4 Summary (The Process of Implementing P/PM 150)**

Participants discussed the process of implementing P/PM 150 within schools and within food service companies. While some reported the transition to be ‘relatively easy’, others felt that it was an ‘adjustment’ as students’ and school staff’s favourite foods were taken away. In terms of degree of change to school food after P/PM 150 implementation, most food service providers felt that they were already trying to serve healthy options, however they did have to make significant changes to become compliant. More students, parents and school stakeholders reported ‘noticing a difference’ in school food post-P/PM 150. Participants were asked about resources and supports they received as well as activities that helped to support policy implementation. The reported activities that were not prompted by the interview script were activities taken on by the schools, school stakeholders and food service providers themselves including: inquiry to food suppliers regarding the creation of compliant products; schools phasing in policy changes; a few schools ‘piloting’ the policy before it was mandated; and school champions within the school that promoted the policy and applied for grants to support policy implementation.

Participants were asked specifically about resources and supports provided by the Ministry and Peel Public Health. The reported supports by the Ontario Ministry of Education

included the policy booklet, the creation of ‘healthy menu committees’ that met after the policy was developed, and additional resources provided on the Ministry website (website was only discussed by one participant). Many activities that were reported were organized by Peel Public Health, including the support of public health nurses, the distribution of healthy eating posters, meetings and events (such as the Peel Student Food Expo and the Cafeteria Revolution) and the support provided by P/PM 150 coordinators/consultants. Other meetings, workshops, and events were mentioned, although there was uncertainty as to who organized them. Participants did not have any suggestions regarding resources and supports that would be helpful.

#### **6.4 Environmental Influences on Policy Implementation**

As mentioned in Chapter 3, environments in which students live, work, and play influenced student food behaviours in a variety of ways. Similarly, when implementing a new policy, environments can either have a supportive or unsupportive role which in turn can impact implementation. When participants were asked about P/PM 150, they identified a number of ‘successes’ and ‘challenges.’ Many of the successes and challenges that were identified related to environmental influences that either supported or did not support policy implementation. Therefore, the following results will present these environmental factors (expressed by participants as ‘successes’ and ‘challenges’) and how they either positively or negatively supported policy implementation.

#### **6.4.1 Environmental Influences that Support Policy Implementation**

**Table 6.5: Summary Environmental Influences that Support P/PM 150 Implementation**

- |   |
|---|
| <ul style="list-style-type: none"><li>• Positive external partnerships/collaborations</li><li>• Events &amp; special activities promoting healthy eating/P/PM 150</li><li>• Successful marketing &amp; promotion campaigns</li><li>• Presence of a school champion leading P/PM 150</li></ul> |
|---|

Four environmental factors were identified that supported policy implementation, including: positive external partnerships and collaborations; school events and activities promoting healthy eating and/or P/PM 150; marketing and promotion activities for school food; and the presence of a champion.

##### **6.4.1.1 Positive external partnerships/collaborations:**

An environmental factor (or ‘success’) that was supportive of policy implementation was positive external partnerships and collaborations between schools, food service providers and public health. Participants from four schools reported evidence of a positive relationship with their food service provider, three of which felt that their provider was responsive to school food suggestions. One secondary school stakeholder stated:

You know, our cafeteria guy, he’s really good. He talks to the kids. He, you know, he’s not their friend but you know, he talks to them. And they’ll always ask ‘Hey, can you put this thing, can you put that in’ and he’ll see what he can do.

Food service providers also spoke about positive relationships they had with their schools. One explained, “what I found this year, was ...some of the principals are really engaged in this whole P/PM 150 and they make the schedule [for exemption days]...and they

discuss it with us. Not all of them do.” Some providers explained that they were trying to be ‘pro-active’ and build relationships with school principals, because they explained that if you have a good relationship, it can drive their business and the school gets some of the profits. As mentioned in the section outlining activities/resources/supports, school stakeholders and food providers discussed working with manufacturing companies and food suppliers to find compliant products. For example one provider “went to [their] suppliers like Cisco and Maple Leaf and things like that …and asked them to make compliant products. And so a lot of them did”. Another provider explained that:

I found even a guy I’m dealing with at Cisco Foods you know, they’re really aware of it too...so what I’ll say to him is I’ll say ‘I need burgers for a BBQ and they have to be compliant. Which ones do you suggest?’ And he’ll send me back the information, which has been really helpful.

One provider described a company that approached them to put more of their products on their menus and to work together to create compliant products. In addition, two parent focus groups also noted that companies that catered food for special lunch days (i.e. Pizza Pizza, Lunch Lady, Dad’s Cookies) became compliant so they could maintain their business with the schools, which was considered a success for parents who were in charge of special lunch days.

#### 6.4.1.2 School events & activities promoting healthy eating/P/PM 150:

Six stakeholders (a combination of elementary, secondary school stakeholders and food service providers) explained that events and special activities that promoted healthy eating were considered an implementation success. One teacher described a series of events that were done to promote the policy:

I was on this little committee. I can't remember how it started. I think we had one teacher at the school who was really quite involved, and she recruited a couple of us from Phys. Ed just because in Phys. Ed. we do nutrition and healthy eating and things like that. ...and recruited us to try and help advertise about the implementation, and we did a bunch of things at lunch... She had kids doing skits – healthy eating skits and we did promotional stuff at lunch about this [...] Yeah, I remember a rap contest or something... a dance contest. [...] Yeah, it was kind of cool. We did quite a little thing on promoting that this was coming and...so the kids would be prepared.

Other events included schools hosting 'healthy eating week' where they promoted new healthy options, special lunch days with themes (i.e. hot-diggity-dog day), as well as cafeteria promotion events to try and keep students in the cafeteria at lunch time. One stakeholder described their school cafeteria's promotion event that included:

different kinds of activities in the cafeteria, like you know Minute to Win It, or apple bobbing, or just some kind of entertainment to keep the kids inside the school rather than having them leave us to go across the road to buy junk.

A few participants reported using new technologies to gain the interest of staff and students and incorporating healthy eating into education. Examples of new technologies used by food service providers and school stakeholders include panini makers, Vitamix ® blenders for smoothies, frozen yogurt machines and Keurigs ® (with non-caffeinated beverages). For instance, one secondary school stakeholder described how they incorporated smoothies into their events and classroom activities:

What we're doing in the morning with the Vitamixers. ® [...] What I did last week was we took the recipes in so the kids could pick up a recipe and...[we tell] them to 'just go online and google any recipe. [...] So we're using technology, right? ...And we're talking to them about 'oh this one has got tons of sugar, so that you know is not as good as [using] egg whites' and then its

‘why egg whites?’ and ‘what’s protein?’...so [teachers] would tell you they’ve adopted it into their curriculum.

These events and activities promoted healthy eating (and indirectly P/PM 150), which therefore, had potential to positively support policy implementation.

#### **6.4.1.3 Successful marketing & promotion campaigns for school food:**

Four of the five food service providers explained that marketing and promotion campaigns helped them maintain or generate revenue which was related to P/PM 150 implementation. They explained that since they were limited in what they could serve, they had switched their focus to marketing their service to make it more attractive to students. Examples included: offering meal combos, offering free drinks with a meal purchase, offering taste-tests and giving samples, bringing in brands students like such as Pizza Pizza, and using social media (Facebook, Twitter, Instagram) to promote the cafeteria. One food service provider reported collaborating with a celebrity chef to create trendy, restaurant-style dishes to try and entice students to buy healthy cafeteria foods. While marketing and promotions was a reported strategy used before P/PM 150, it was also discussed in terms of an implementation success by positively impacting students’ food behaviours and generating revenue for the cafeteria.

#### **6.4.1.4 Presence of a champion:**

As mentioned previously, the presence of a champion was an important factor for successful implementation of the policy. School food champions were often responsible for the positive relationships with school food providers and suppliers, and were also the reason

schools (including teachers and students) participated in events held by Peel Public Health.

Food providers also discussed the fact that:

willingness of the principal to be involved is one big thing. If you had a principal who is really keen and supportive on [healthy eating and the policy], then he would champion the message and especially support it with staff, say if you kind of had groups of staff that were doing things that weren't compliant.

It is also interesting to note that food providers that considered themselves champions for healthy eating prior to P/PM 150 being mandated, often reported not having much to change on their menus as they were already focused on healthy eating prior to P/PM 150.

#### **6.4.2 Environmental Influences that Do Not Support Policy Implementation**

Table 6.6: Environmental Influences that Do Not Support Policy Implementation

- |   |
|---|
| <ul style="list-style-type: none"><li>- Lack of buy in &amp; support</li><li>- Lack of resources</li><li>- Lack of confidence in food provider</li><li>- Communication challenges between food service &amp; schools</li><li>- Lack of/difficulties monitoring P/PM 150 compliance</li><li>- Challenge changing school food culture</li><li>- Competition (from other school food providers)</li><li>- Lack of Ontario Ministry of Education involvement</li><li>- Operational challenges</li></ul> |
|---|

A number of environmental factors (described as 'challenges' by participants) were un-supportive of policy implementation, including: lack of buy-in and support; lack of resources; lack of partnership/collaboration; lack of/difficulties monitoring P/PM 150 compliance; competition with other school food service providers; challenges changing food culture (inside and outside of school); and operational challenges within the school.

#### **6.4.2.1 Lack of buy-in & support:**

One environmental factor that reportedly challenged policy implementation was lack of buy in and support. First, respondents reported resistance to P/PM 150, from school stakeholders and food service particularly. One food service provider explained that their cafeteria staff did not understand why portions had to be smaller and changing their mindset was difficult. One secondary teacher also explained that “if anything, the teachers are probably more frustrated [with the policy] than the students.” Participants not only expressed that there was lack of support for policy-specific changes, but often there was resistance to promotion of healthy eating in general which makes implementation even more challenging.

One secondary school stakeholder expressed:

It’s a slow process because there is not a lot of people at the school who are on board with the healthy eating, or if they are, they are doing it for themselves but they’re not necessarily advocating for making sure students are trying to do that. So it’s a bit of a tough go.

One food service provider felt that there was a general lack of understanding about the spirit of the guidelines which limited its support.

Participants also discussed a lack of support from the Ontario Ministry of Education to help schools and food service implement the policy. One parent explained that the Ministry pretty much said “okay, here’s the policy. Deal with it.” Another teacher explained that,

nutrition for students isn’t a box that you check off as ‘the legislation is done, therefore we are done, therefore [students] are eating healthy!’ It’s not done! Where’s the continued funding? Where is the help? Where’s the support for teachers?”

Some school stakeholders felt that the Ministry should have advertised the policy better and explained to the students and school stakeholders why it has been put in place.

#### 6.4.2.2 Lack of resources:

Participants explained that they lacked the necessary resources (including time, facilities, human and monetary resources) to successfully implement the policy. They spoke about challenges in finding sufficient time and human resources to implement P/PM 150; for instance, one group of elementary school participants that ran a lunch program stated:

Participant 1: I bet though if you had a nice lunch where you had proper soup that met those guidelines, kids would try it.

Participant 2: Yeah, they might. If you had home-made soup? Yeah.

Participant 1: But the other issue too is the staff. Who's going to run it?

Participant 2: But where are you going to find the staff?

Participant 1: Am I gonna do it all by myself?

Participant 3: You have to have a volunteer to come and make it.

Participant 2: I'm not knocking them...they're not getting paid so why would you go out of your way to do it?

Participant 1: You're not getting paid. You have better things to do with your time. Why shouldn't you get paid?

Other groups and stakeholders explained that compliant foods take more time to prepare and more human resources. One food provider explained that a lot of the pre-cooked, pre-made foods that are easier to make are quite sodium intensive and often don't fit in the guidelines. Trying to make new recipes that are compliant and fit within their kitchen processes and typical routines was thus considered a challenge. They also explained that when making food from scratch, it was challenging to control its contents (i.e. amount of sodium in a hamburger) and to ensure that everything fit within P/PM 150 portion limits.

Participants also spoke specifically about lack of monetary support. One parent group expressed “when the government brings [a policy] like that in, they also have to realize you have to have a way of implementing it. They bring in all these rules and they don’t bring a budget in to allow it.” Some food service providers also felt that cafeterias were lacking necessary support. Two providers in particular mentioned that they lost one of their most efficient cooking methods (frying) where they could feed many students in a short period of time. In addition, there was no replacement for that cooking method, and they felt that the government could have helped replace the fryers with new equipment (i.e., a second oven in case the first oven broke down). Other participants also felt that they did not have the proper facilities or equipment to effectively run a cafeteria, or food program under the new standards. They also explained that neither the government, nor school boards, assisted them by investing in new equipment. One provider explained that the expectation was that the food service company would invest in the equipment. They explained that they were already struggling to keep the cafeteria workers employed, so investing in new equipment (unless the school applied and received a grant to be put towards new equipment) was unrealistic. It is interesting to note that when asked about what resources and supports participants wanted, they reported none; however, they were quick to identify what resources and supports were lacking.

#### 6.4.2.3 Lack of confidence in school food provider:

Secondary school participants discussed a lack of confidence in their food service provider which was an environmental factor that had the potential to limit of P/PM 150

implementation. It was unclear whether this was reported specifically because of the policy (after P/PM 150 implementation), or whether there were concerns with their food service provider despite the policy. A few general comments were made. For example, participants expressed concerns that food service companies, particularly larger ones, are a monopoly that do not care about students' health or the quality of school food. This theme was also discussed directly in relation to P/PM 150 by one school stakeholder who explained,

[someone from the food service company] who was really, really, high up was telling us that 'oh it took us six months to find a hamburger that's P/PM 150 compliant" and I just thought 'are you kidding me? That's all you can do? At that speed?' and I really lost my confidence in their ability.

Another reported concern was that food providers were not catering to students' needs. As mentioned in the section outlining general school thoughts, school stakeholders described the diverse populations to which their schools catered, and that cultural dietary needs were not considered in cafeterias. This was described by two school stakeholders:

[The cafeteria] has specials on some days...but again, the variety of food is not like...[...] there's not a lot of variety in what they make...but everyday they have specials...but again it comes down to portion size. [...] because there is such a diverse group of students, we need to cater to most of the groups in the school. And that is not happening, so things like halal and kosher food and all of that.

This was also a theme discussed under general thoughts of school food, so it was sometimes unclear whether it was considered a challenge that was specific to P/PM 150. Nevertheless, it is a negative environmental factor that influenced the success of policy implementation.

#### **6.4.2.4 Communication challenges between food service & schools:**

While some participants reported positive collaborations with food service and schools, a commonly reported challenge was communication issues between food service providers and schools that was unsupportive to the implementation of P/PM 150 (mostly by food service providers); especially regarding exemption days. Providers noted that while some principals were very open about their exemption day schedule, others did not communicate it with their food service provider. One provider explained:

I mean if they're having a barbecue, you know, I mean how much are we really going to sell? ... Some of the principals are aware of the ten days and monitor the ten days, but I would say probably eighty percent of my principals don't [...] and you know communication isn't always there as far as letting them know. [...] I mean there would be days where the school is selling pizza at lunch and the ladies at the caf didn't know... well if they'd known ahead of time, they wouldn't have ordered pizza that day.

School food providers also felt that other stakeholders involved in school food do not necessarily understand the logistics behind running a business and their trying to provide suggestions to help food service boost their sales (i.e., special days, theme days) are not perceived as helpful. Food providers also explained that while the assumption was that schools were to ask for a 'P/PM 150 letter of compliance' from all food providers catering to schools, the majority of schools did not ask for it. They assumed that if they are not being asked for compliance, than anyone else bringing food into the school is also not being asked which was concerning. This leads to the next most common implementation challenge which is the lack of, or difficulties monitoring P/PM 150 compliance.

#### **6.4.2.5 Lack of/difficulties monitoring policy compliance:**

Four of the food service providers that participated in an interview described knowledge of other schools or other food providers not following P/PM 150 standards. One provider expressed his concern regarding schools not following guidelines: “it just seems...and the [cafeteria] ladies get the impression that nobody is policing the schools and the schools do whatever they want, but they have to follow all the rules, which is frustrating for them.” Even if there was an official monitoring process in place, participants described more challenges in monitoring compliance on freshly made items, compared to pre-packaged foods. Participants also seemed to have mixed thoughts on who was ultimately in charge of monitoring P/PM 150 compliance (whether it was the Ontario Ministry of Education, school boards, principals, food providers).

Food service providers explained that school stakeholders (principals, vice-principals) were often unaware of their own schools’ level of compliance to the policy. In addition, participants noted that because of high staff turnover rates, often the principal or staff members who had training in P/PM 150 had left the school, decreasing the likelihood of schools staying compliant. One provider also mentioned a new online food platform that had been made available to schools. Outside vendors (for example, Swiss Chalet®, Boston Pizza®, Pita Pit®.) could load their menus onto the platform and elementary school students/parents could order meals directly online from the website. While this was considered an innovative, convenient new system for families, it was unknown whether anyone (from the Ontario Ministry of Education or otherwise) was monitoring what was sold through this platform.

Lastly, food providers were concerned about inspections and the issue of staying compliant throughout the entire lunch period. One provider explained that a cafeteria can be following the 80-20 ratio rule at opening, however, 15 minutes into the lunch period, they cannot guarantee they will still be at 80-20 as they can't control what students purchase and how the ratio of foods is affected. Lack of monitoring as well as difficulties proving compliance, therefore, were significant issues regarding the implementation of P/PM 150. This theme was also related to another challenge: competition between food service providers.

#### **6.4.2.6 Competition with other school food providers:**

As mentioned above, participants described knowledge of other schools or food service providers 'breaking P/PM 150 rules' which created animosity between food providers, especially when they were competing and bidding to get contracts with the school boards. One provider explained that when they attended the Peel food expo, they heard of schools not following guidelines. They stated:

I think everyone sort of assumed that everybody was following the rules and doing what they are supposed to be doing, but that's not necessarily the case. Like even at the last [Peel event] we were at, going around and talking to all the kids when they have their [poster boards] and the one girl said that they are still frying in the cafeteria. You know, so you're up against things like that and that's what frustrates our ladies and frustrates me, when you know we're following all the rules and these other people aren't.

#### 6.4.2.7 Challenges changing food culture (inside & outside of school):

The challenge of changing school food culture inside and outside of the school was another significant environmental factor influencing policy implementation. Again, it was sometimes unclear whether participants felt this was a challenge since the introduction of P/PM 150. Participants thought that lack of consistency in support for healthy eating was an issue inside the school environment. Two participants described healthy eating at school as ‘peripheral’ to education. Some participants also reported that parents, principals, and teachers do not want to deal with a changing school food culture (implementing P/PM 150) and they were worried that students would be unhappy. As one stakeholder explained, that “there is no consistent, supportive school culture” regarding what students eat. There were also inconsistencies in food culture across schools. They reported seeing certain schools, usually elementary, where fast food was being dropped off by parents on a regular basis, while some schools strictly discouraged or even banned unhealthy foods from being brought in (i.e. fast food, pop, etc.). Some school stakeholders described trying to support the new policy by changing ‘food as reward’ rules in the school, however, they found it to be a struggle: “Students have put some pressure on their teachers to always give them junk food for prizes and I’m trying to stop that. It’s an uphill battle.”

Not only did participants discuss challenges with changing the food culture inside the school, but they also discussed challenges changing food culture outside of the school. Participants explained that it is often even more challenging to change outer environments, and when the inside and outside environments clash, implementation of the policy becomes more complex. There is often a belief that the food industry cares about profits and not about

health. Food providers explained that the expectation in the food industry is that the food industry meets the needs of their clients (good tasting foods that have good value for money). With policy restrictions, school food providers are limited in what they sell, while the outer food environments are without restrictions. It was noted by a few participants that the suppliers and companies that cater to schools made ‘healthier, compliant products’ (Maple Leaf® compliant burgers, Pizza Pizza®, Pita Pit®, Swiss Chalet®), however those products are not available in their retail stores which sends a mixed message to students. Food service providers explained that these new products were not offered to the public, because the thought was that the public would not buy it. However, if a student liked a particular product in the school program, they should be able to access it in all environments.

#### **6.4.2.8 School/cafeteria operational challenges:**

A few operational challenges within the school environment were described by participants that were not supportive of policy implementation: they related to lunch period scheduling, and food safety concerns. Two participants explained that lunch hour timing had an impact on student food behaviours. For example, one food provider explained that lunch periods had changed a lot over four or five years and schools had gone from multiple lunch periods down to one or two periods so: cafeterias had more students to serve, longer lines, and less space for students to eat. One food provider has tried to find ways to deal with this issue by sending out additional carts with food options, and increasing the number of cash registers, but it still creates a challenge, especially when students report disliking new school food. Other logistical challenges experienced by school stakeholders and food service

providers related to food safety and food storage issues. A parent from one focus group explained:

Parent 1: The other thing is the way the policy is written with choices, you know, having [...]out of five things, you have to have four healthy choices or green choices. I think that's a challenge because...healthy choices are not always as easy to store and stuff. For example, if we wanted to offer apples, oranges, bananas, you know, grapes and a cookie, [the fruit] doesn't store the same as the cookies...

Parent 2: The cookies you can store for a year. Know what I mean? The [fruit] you have to buy on a frequent basis so we don't have the people or volunteer powers to say 'I'll make sure there's those fruits available for the snack shop. What ends up being there is the cookies and things that are easy to store, easy to last, those kind of things, right? So I think that's a challenge with it.

Some providers also mentioned certain food safety rules that created some challenges. For instance, one provider explained that they bought some new equipment and set up a deli bar after the policy was in place. However, for food safety, rules state that they must have a washing station right next to certain equipment which was unrealistic in certain cafeteria environments.

#### **6.4.3 Section 4.4 Summary (Environmental Influences on Policy Implementation)**

To summarize, when participants were asked about their thoughts on the successes and challenges related to policy implementation, they often spoke about their environments (or factors within their specific environments) either supporting or not supporting implementation. Supportive environmental factors included positive relationships between schools, food service and outside organizations (such as Peel Public Health, and food suppliers). Additionally, schools that reported hosting events and activities that promoted P/PM 150 and healthy eating reported successes with policy implementation. Some food

service providers reported successful marketing and promotion strategies that promoted P/PM 150 cafeteria foods to students, which was considered a policy implementation success. Lastly, the presence of a school champion to support the above implementation activities was an important factor regarding successful policy implementation.

While some environments supported successful implementation, others described challenges within their environments that hindered successful implementation of P/PM 150. For instance, schools or food providers that did not have buy in or support from other staff, struggled with policy implementation. Participants who described a lack of resources and supports (time, facilities, human, monetary resources) also reported struggling with P/PM 150 implementation. Although some schools had positive relationships with their food service providers, others reported challenges with communication as well as lack of confidence in their provider's abilities to provide compliant options. There was concern that the lack of monitoring of policy compliance in schools, cafeterias and food service providers hindered implementation; especially when participants reported knowledge of other schools and providers not following the standards. Lastly, some participants described difficulties changing food culture inside and outside of the school, which was considered a significant challenge to P/PM 150 implementation.

## **6.5 Relationships between Successes/Challenges in Policy Implementation and Positive/Negative Impacts of P/PM 150**

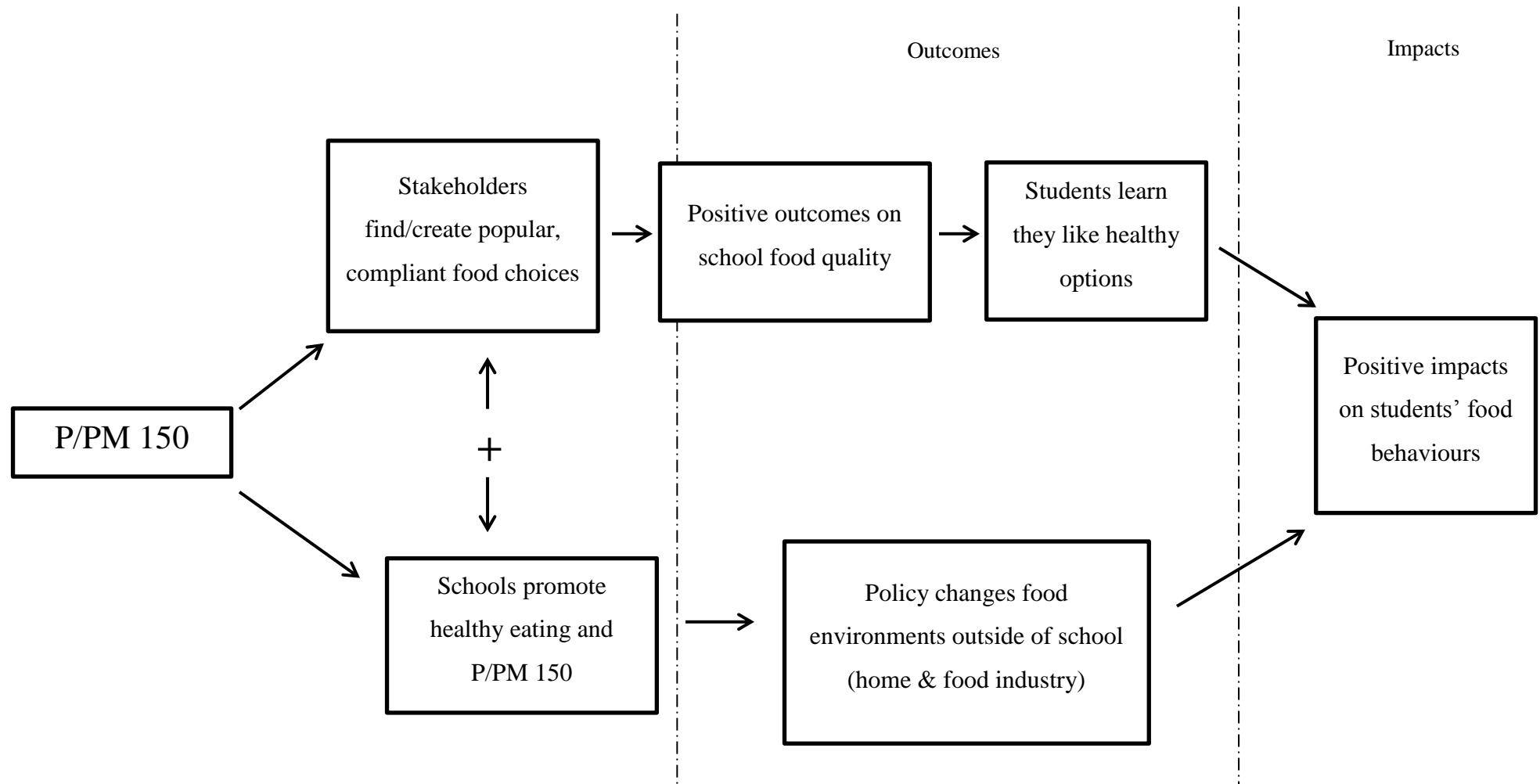
Some of the successes and challenges in policy implementation (as reported by participants) were specifically related to positive and/or negative outcomes and impacts of

P/PM 150. The following results report on the relationships between reported implementation successes and perceived positive outcomes and impacts, as well as reported implementation challenges and perceived negative outcomes and impacts. Outcomes are shorter term changes seen in the process of program or policy implementation (such as improved access to P/PM 150 compliant foods) while impacts are considered longer-term changes that relate to the overall goal of the policy or program, such as improvement in student food behaviours

### **6.5.1 Relationships between Successes and Positive Outcomes and Impacts**

There were two instances where implementation successes identified by participants led to positive impacts on student food behaviours: the first success, *finding strategies to create/reformulate/find compliant items* led to perceived positive outcomes (improved school food quality) which then ultimately led to perceived positive impacts on student food behaviour. Also, another reported success- *events and activities that promoted healthy eating and P/PM 150* (a supportive environmental influence as discussed above) - led to the perceived outcome of students being more aware of healthy eating which led to perceived positive impacts on students' food behaviours. These relationships as shown in figure 6.1 will be discussed below in more detail.

Figure 6.1: Relationships between perceived successes of policy implementation and positive outcomes and impacts



#### 6.5.1.1 Finding strategies to create/reformulate/find compliant items:

While many implementation successes were reported that contributed to supportive environments for policy implementation, there was one reported success that led to perceived positive outcomes of P/PM 150; the most commonly reported success by school stakeholders and food service providers was *finding strategies to either create, reformulate, or find compliant items* that were popular with students. Participants talked about needing to be creative to find ways to show students that they can eat healthy foods and still have a large variety in food choices that taste good. One provider commented,

some of the things have been successful, especially the cookies. So all the cookies were reformulated with extra fibre. [They] are probably the number one thing we sell. So some of the reformulated products have been really successful, and you know, the transition was seamless.

Food providers specifically talked about going ‘out of their comfort zone’ by being forced to be more creative and searching for interesting products that would capture students’ attention. Secondary school stakeholders also noticed positive changes in the cafeteria foods. One teacher explained “other successes we’ve had....I think the cafeteria is becoming more successful because they started to think differently too and add the...you know, the cart with the wraps and the paninis. And, they’re just thinking differently and trying different recipes.”

The success of finding new, interesting compliant items resulted in perceived positive outcomes on school food quality.

#### **6.5.1.2 Positive outcomes on school food quality and options:**

Participants explained that cafeterias were able to find healthy options that are popular to students and staff. Mostly elementary students and parents discussed positive outcomes on school food quality – in essence this meant having more school options that met P/PM 150 guidelines and were popular. One elementary school parent described new healthy, compliant options that were created to fit the policy:

There definitely have been changes like the Subway becoming compliant, the pizza becoming compliant...[the] lunch lady did send out, you know, the changed menu that's compliant with more salad choices. They can get like salad with chicken and stuff like that, which my kids really liked. So you know, that was good choices.

Elementary students reported especially liking the new drink options which “are better, especially the chocolate milk. Everybody loves that.” With healthy, appealing options being offered at school, participants felt that students would learn to like healthier options leading to positive impacts on student food behaviours.

While participants identified a relationship between finding compliant items, positive outcomes on school food quality, and positive impacts on food behaviours, another set of relationships also led to positive food behaviours: school activities and events promoting healthy eating/P/PM 150 (discussed in environmental influences supporting implementation), which were perceived to lead to students being more aware of and care about healthy eating, which were perceived to have positive impacts on student food behaviours.

#### **6.5.1.3 Students are more aware of (and care about) healthy eating:**

One of the environmental influences discussed above was *school events and activities that promoted healthy eating and P/PM 150*. School stakeholders explained that the promotion of healthy eating and healthy options had a perceived positive impact on student food behaviours as students (and other stakeholders) became more aware of and cared more about healthy eating (an outcome of P/PM 150). One secondary school teacher noted, “I think what the policy did is force the contractors and people around to kind of be aware of [healthy eating] and implement it.” Some school stakeholders explained that the policy helped them to think differently about the food offerings in their school. As described by one school principal:

What the policy did was cause us...cause me to think divergently, right?  
Cause I saw what was happening with my school in a negative manner. So I thought ‘how can we make healthy eating cool? How can we help kids think differently about /PM 150’, right?

Some participants also reported that the policy had a positive outcome on healthy eating awareness. A secondary school teacher explained that his students would say to him, “we want to have a bake sale, but do you know if these are healthier recipes, or where can I get healthier recipes and stuff.” He explained that he “really believe[s] their focus is a healthier focus.” Participants felt that students really did care about healthy eating and as long as they were given proper choices, it had the potential to impact their eating habits. One parent explained that teaching students about healthy eating early in life would positively affect their future. She felt that...

the policy is going to change thinking so that when my son in grade seven is, I don’t know, like in university making his own meals, I think he’s going to

choose ‘hey, I’m going to make pizza...but I’m gonna have it vegetarian, ‘cause I love my pizza with onions and green peppers on it. He doesn’t just have to think pepperoni, right? So that’s what the value is in this policy. I think it’s educating minds that there are other options out there.

#### 6.5.1.4 Positive impacts on student food behaviours:

Because of positive outcomes on school food quality and increased awareness of healthy eating, participants reported specific positive impacts on food behaviours: students learning that they like healthy foods, students getting used to healthier foods, and students developing healthier eating habits in general. Elementary students were most likely to report learning to like/getting used to healthier foods. A few student comments included:

“[students] might choose different things on like the menu, or...cause the school’s changing the way they eat so they might get used to it”, and “it might cause some kids to now realize, ‘oh this [...] tastes good and it’s good for me’ – so maybe, you know, next time they go to the restaurant, they’ll order something, you know, healthier, opposed to like French fries.” Some elementary students reported the policy having an actual impact on their behaviour where one explained:

My parents think its healthier...because like when they have the junk food, I used to buy more of it...but now like I don’t eat that much junk food...I make healthier choices now. So, they think [the policy is] good for me.

Some stakeholders explained that new, creative menu items brought some students to buying school foods. One principal noted that their food service provider:

...is making, you know, the Chinese noodles and...with chicken. So there’s the protein and the carbs. And she’s got that...wrap cart going...and that idea of the paninis...that fits with P/PM and more students are staying. She’s making enough money that I think we’re stable.

One secondary school stakeholder who was involved in the cafeteria explained that school staff are eating healthier because of the interesting options offered:

I wouldn't say that more staff are eating here now, but the ones that are eating here now are definitely choosing the salad bar to be a larger part of their meal and French fries to be less of their meal.

#### **6.5.1.5 P/PM 150 having positive impacts beyond school food:**

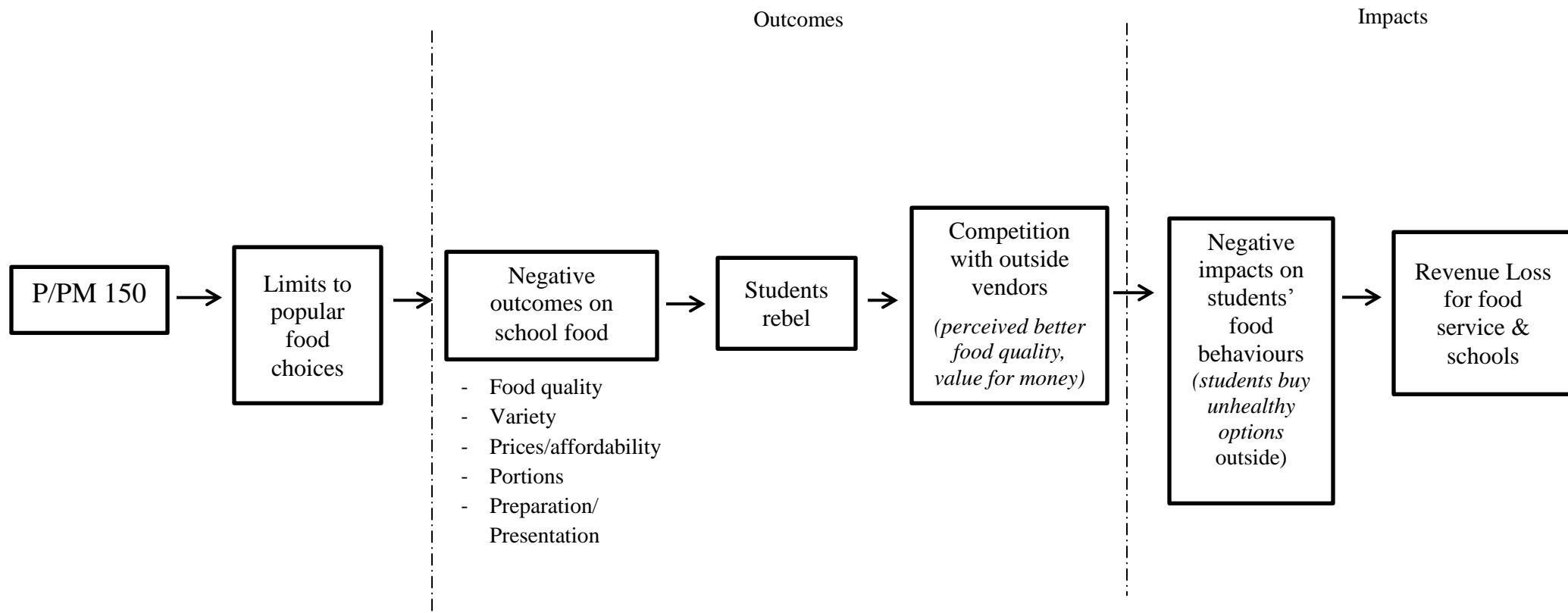
One final positive impact of the policy that played an important role in supporting healthy eating was P/PM 150 having positive impacts in other environments. A small group of participants (one food service provider, one secondary school stakeholder and a secondary school student group) thought that the policy could have positive impacts beyond school food. Two participants explained that if students are exposed to new healthy foods at school, and they go home and ask their parents to purchase it, the policy could potentially impact the home environment. One food provider reported an actual positive impact of the policy on food suppliers. They reported working with a particular company in the food industry to reduce the portion size and amount of sodium of a product to become compliant. They explained that the product is now available in retail stores with the reduced sodium. Therefore, a few participants felt that the policy does have the potential to change what is available in the outer food market as well as the home food environment.

#### **6.5.2 Relationships between Challenges and Negative Outcomes and Impacts**

Policy implementation challenges that were identified by participants led to perceived negative outcomes and impacts of P/PM 150. Policy implementation challenges were reported more frequently, compared to challenges listed in the unsupportive implementation

environments section discussed above. These next sub-sections will describe challenges that were linked to outcomes and impacts in order of the relationships as illustrated in Figure 6.2.

Figure 6.2: Relationships between perceived challenges of policy implementation and negative outcomes and impacts



#### **6.5.2.1 Challenge interpreting the policy:**

Food providers, elementary school parents, and secondary school stakeholders discussed difficulties interpreting the policy. One parent focus group discussed how it was difficult to determine what fits within policy guidelines, as explained by a parent:

It was really hard to determine: ‘okay, this is okay – that is not’ because it’s just a bunch of numbers. And unless you’re a nutritionist or a dietitian and you know what those numbers mean, it’s really difficult as a parent to kind of, you know, put your mind in that sort of frame...I find personally, it’s really hard as a parent to read it and make sense of it.

Two providers also explained that it was easier to interpret the rules for pre-packaged foods, however the ‘mixed dishes’ (as described in the policy), were more difficult to interpret. While participants reported challenges interpreting the policy, they also felt P/PM 150 limited their food choices.

#### **6.5.2.2 P/PM 150 limits food choices:**

Another reported challenge of the policy was that it limited food choices for students, schools and food service providers. This was reported as a significant challenge by adult stakeholders since they felt this had negative impacts on student food behaviours and thus presented a challenge for implementation of the policy. For example, it was noted that the most popular items in school cafeterias were no longer compliant, and school food service providers felt limited in what they could offer students (popular items that are of interest to students). A few providers noted that ‘sell most’ items according to the policy were not popular with students, while ‘sell less’ and ‘not for sale’ items were the high volume items.

One other provider also explained that they struggled because they could no longer sell specific items that may have brought students into the cafeteria (i.e. Halls® cough drops, gum) resulting in the loss of ‘attached’ sales. As one provider described:

I can no longer sell Halls® ...because it does not carry ‘nutritional content or value’ [...] So people are going elsewhere. So not only are you eliminating the choice, but also convenience. So the convenience factor is now eliminated. So for instance, the kid that came in to buy a Halls®, maybe he would have also bought a bottle of water. So there are a lot of sales that are attached. So you lose those sales as well.

Providers went on to explain that students will then choose to go across the street to purchase confectionary items, plus their entire lunch. Overall, adult stakeholders explained that the strictness of the policy and associated challenges with limiting variety and portion sizes drove students outside of school cafeterias, which ultimately negatively impacted school cafeteria sales.

#### *6.5.2.2.1 Challenges finding compliant foods that students’ enjoyed:*

Not only did food providers feel limited in their food offerings, they also reported challenges finding compliant foods or struggles to create compliant dishes that are to the students’ liking (right taste, texture, affordable price). Interestingly, the ability to find/create compliant creative dishes that students enjoyed was reported as both a challenge and a success. As mentioned previously, some compliant products (such as buns) did not yet exist when the policy was introduced and providers reported worrying about finding compliant foods that students would purchase. Also, providers discussed the challenges with the inability to add salt, or sugar to foods. They reported understanding student reactions, but not being able to do much about it. For instance one provider explained,

Some of the products have been challenging... and the no salt... or the very little salt has been a big comment...I've been meeting with some of those healthy food committees and a lot of the comments were 'the food was bland'.

Providers also discussed knowing of other food vendors struggling to create compliant products. One explained that Pizza Pizza struggled with making their tomato sauce compliant with the policy, specifically struggling with sugar and salt levels. Providers recognized what students' complaints were regarding school food, however, they could not make the necessary changes due to strict guidelines. Limits to school food and struggling to find compliant popular choices for students often led to negative outcomes on school food quality or acceptability.

#### 6.5.2.3 Negative outcomes of school food:

When students, parents, and school stakeholders were asked about their general thoughts on school food and typical food behaviours (as described in Chapter 3), they were also asked if they had seen any changes to school food. This was explored before the discussion of the policy in order to get a sense of whether participants noticed changes without being prompted by P/PM 150 questions. As a result, it was sometimes unclear whether changes to school food were specific to P/PM 150 implementation or not. Nevertheless, some participants made it very clear that negative changes to school food were a result of P/PM 150. This was the most reported negative outcome by all participant groups most likely because all participants were asked if they noticed changes to school food. When participants talked about changes to school food, they spoke about negative outcomes related to food quality (taste), prices, portions, food preparation and presentation.

#### *6.5.2.3.1 Food quality (specifically related to food taste):*

Students and parents at all school levels reported negative changes to school food quality. Not only did students notice certain foods ‘disappearing’, but the foods that were offered were not to their liking. Students explained that they liked the food previous to P/PM 150 and liked it better. Students often complained about the taste of food, often explaining that it was more ‘plain’ or ‘bland’ after the policy was implemented. One secondary school stakeholder explained that the students at their school noticed reduced food quality in relation to “the taste specifically, with the baked French fries. I remember kids were kind of like ‘Sir, the French fries are garbage’... and they said the cookies were horrible, right?” Students and elementary school parents also noted issues with texture of the new food. One parent explained, “[the students] don’t like the flavour. [...] The perogies were nice and crispy, and then they slowly starting getting soggy.” One group of students explained changes to their cookies: “I think with the cookies and the other sweets and stuff, they have...I’m pretty sure it’s all like either whole wheat or like they add oats or some sort of fibre to it. Because you can tell the texture is different.”

#### *6.5.2.3.2 Limited variety:*

Another complaint amongst students and parents was a decrease in the variety of food options. However, issues with variety seemed to be common even before the implementation of P/PM 150. For instance, one secondary student group described the same chicken being used for multiple dishes:

Like all the chicken is the same....like the chicken nuggets, the chicken burger, and the chicken wrap...it’s like all the same. Like if they run out of

like chicken nuggets, they'll take a chicken burger and just cut it into four strips and give it to you to eat.

Some participants did specifically relate lack of variety back to the policy; they wondered whether decreases in the variety of foods were policy related. For example, one elementary school student explained that:

with the vending machines, we used to have, like, six different kinds of juice. But and then the next year we come back and they're only selling water, apple juice and orange juice. That might have been introducing us to less sugar or something I guess.

Food providers and teachers running food/hospitality classes also felt that they were limited in terms of variety of foods that they could offer students. One food and nutrition teacher explained:

Well, we don't make a lot of the stuff that we used to in class because we can't do anything with the food. So we have....there's less variety in terms of...in terms of what...what the kids are trying to make. Because...we can't make the stuff because we can't get rid of it.

#### *6.5.2.3.3 Portions and pricing:*

One of the largest discussions with stakeholders regarding 'school food' revolved around the impact of the policy on portion sizes and pricing. Participants complained that portions decreased since the implementation of the policy. However, prices either stayed the same or increased. One secondary teacher expressed students' concerns:

What the kids notice is the...and you know, you talk to kids all the time and one thing they say, the portions got a lot smaller. And you know, obviously the prices kind of stayed the same. At the same time [food service] is forced to do that because they're only allowed to give a certain portion now.

Some participants emphasized that portion and pricing particularly affected low SES groups because “some [students have] said, ‘I love to buy your food here, but I’m always hungry afterward, because the portions have decreased because healthy food costs more, right?’” Students explained that school food portions often did not satisfy their hunger.

#### *6.5.2.3.4 Food preparation and presentation:*

While participants mentioned concerns with school food preparation and presentation, it was unclear whether these issues were related to P/PM 150. One P/PM 150-specific impact related to food that was now baked as opposed to fried which had negatively affected taste and texture of food. Other issues with food preparation and presentation that related to the policy but were not necessarily policy-specific, included food not being ‘properly cooked’, food sitting out for long periods of time and food appearing ‘unappetizing’ in general. Some secondary school students explained that if food doesn’t get sold one day in the cafeteria, it will be there the next day to be sold again. Another secondary school student group described uncertainty over what was being served: “Like sometimes there’s like chicken or something, but I literally don’t know what it is [Student 2: they don’t have labels]. Unless someone buys it, and I’m like ‘what even is that?’”.

#### *6.5.2.3.5 P/PM 150 food ‘less healthy’ as an unintended negative consequence:*

Another perceived challenge relating to outcomes on school food were the unintended consequences of the P/PM 150 standards and their impacts on school food. Three food service providers and three secondary school stakeholders described some unintended negative consequences of the policy; they described the food actually becoming less healthy

after the policy was in place. School stakeholders (especially secondary) explained that they were expecting ‘bigger and better’ changes and they perceived that in some ways the policy lowered the bar for school food:

[School staff] didn’t seem too thrilled with the changes in food. They thought it would maybe be bigger and better changes. Some of the stuff that’s being sold is not really different. Like I said, the Jamaican beef patties for example are the same ones. There’s no lower fat variety...So I think the hope was that it was going to be a little bit healthier changes.

One secondary school stakeholder reported that less fruit and vegetables were served in their cafeteria after the policy was implemented. Food service providers also noted that some questionable products fit the policy standards. For example, one food provider said:

Here’s another thing I always get [from students and parents] – ‘oh my god – why are you guys selling diet pop!? That’s worse for you than regular pop!’ And I’m like ‘well, I’m just selling what I have to sell’, because a lot of the parents don’t want their kids drinking this stuff.

Food providers especially seemed to be frustrated with the policy, as one explained: “the biggest problem about these new guidelines is that in order to remain profitable, [...] we’ve had no choice but to introduce foods that I would never sell if you gave me the choice.” They felt that the policy promoted the sale of more pre-packaged items and discouraged food providers to serve fresh healthy food. As mentioned previously, it was often easier for food providers to match a label to ensure compliance than it was to ensure food made from scratch fit the policy nutrient and portion standards. One provider even described that if they were to follow a strictly ‘sell-most’ cafeteria/food program, they would not be able to serve home-made macaroni and cheese (because a ‘sell most’ cheese didn’t exist); however, Kraft Dinner Smart would technically fit under the sell most standards. Food

providers and school stakeholders explained that these unintended negative consequences of the policy made it challenging to promote their business, sell their products to students, and even more challenging to compete with outside competition.

To summarize, while at times it was unclear whether the changes were as a result of P/PM 150, some participants reported being very confident that food changes were specifically a result of the policy. Some participants explained the negative outcomes on school food often led to student rebellion and protest which was another perceived negative outcome of P/PM 150.

#### **6.5.2.4 Policy brought negative connotation to school cafeterias:**

A few participants noted that by students simply knowing that the cafeteria was bound by ‘healthy food guidelines’ brought an immediate negative connotation to the cafeteria, even if the students had never tasted the food. They explained that ‘health’ was not a good way to promote cafeteria foods, and that it was better for them to try and promote restaurant-style foods, or even local foods because it was would be more positively regarded. One food provider explained:

The local connection is positive, and the healthy connection is seen as negative.” One secondary school teacher explained that: “[The policy has] got a negative connotation to it, because it wasn’t brought in in a positive manner [...] so students [think] ‘oh my god, there’s that stupid government legislation and they make crap in there now.’

#### **6.5.2.5 Students rebel/protest against policy:**

Negative student reactions to the policy, was another commonly reported implementation challenge by all participant groups. While four focus group/interview

participants perceived that the policy could lead to student rebellion, four others reported students' actual protests against the policy. One principal explained,

at first, they weren't buying anything. And I think part of it was when...it's human nature. You're used to something...like 'I want the fries that I had the year before' [...] and then there's a teenager attitude too: 'you can't tell me what I'm going to eat.' Right?...and so it was like a protest. 'Okay we're going to go [out for lunch].

Students also reported "want[ing] to rebel" when they first heard about the policy.

The conversation in one student focus group went like this:

Student 1: We could make a petition. Have the majority of healthy food but still have...

Student 2: The other portion unhealthy, so kids have a choice.

Student 1: We're gonna sign a petition to bring our food back. Some of it, not all of it.

Other students and parents predicted that students in the school would be upset by the new policy and change their food behaviours resulting in more students not purchasing cafeteria food and leaving campus to buy food elsewhere. As such, competition from food venues outside the school was another perceived challenge of P/PM 150 implementation.

#### 6.5.2.6 Competition from food venues outside of school:

Secondary school stakeholders and food service providers reported outside competition as a challenge to policy implementation which led to perceived negative impacts on student food behaviours. Participants described difficulties in trying to keep students from accessing outside (usually unhealthier) food venues. Some explained that cafeteria sales seemed to be quite dependent on how many food outlets surrounded the school. One secondary teacher explained, "the schools that do really well [in terms of cafeteria sales]

usually don't have anything around them as far as fast food places. You've got a much better capture rate. Schools that have stuff close by, the kids leave." While some participants explained that students left even before the policy came in, others explained that this was a direct negative impact of the policy.

Food service providers, secondary school students and secondary school teachers also brought up that outside vendors often have better value for money compared to school cafeterias. One secondary school student explained:

I know a lot of my friends, they always talk about how the caf is overpriced and there's like Timmies [reference to Tim Hortons) all these other stores nearby. And like they don't sell the same food obviously. Like compared to how much it costs at school, it's definitely a lot more expensive. And it kind of ticks people off sometimes that you're paying almost five dollars for two slices of pizza.

This relates back to the challenges food service providers felt with outside competition that were not bound by a policy.

Cafeteria food providers noted that outside vendors do not have to follow the same guidelines and they therefore can capitalize marketing to student populations. Participants also explained that school food service providers do not have the buying power like outside vendors, and because the policy limits portion sizes, they cannot offer the same value for money as outside vendors. One school food provider commented:

These outside businesses, whether they're chains, or whether they're independent restaurants, are completely capitalizing on the student population. Like you go into Subway and there is a student special...A lot of the little places do the same thing. I don't know what their business plans are or how much business they get at the other time but they give lots of food for a lower price. You know, so the kids go across the street and get a full container of fried rice and a chicken drumstick or whatever for four dollars and a pop kind of thing. A lot of things like that we can't compete

with...One of the schools in Brampton has a strip mall across the street and there are six restaurants in it.

Other participants described different challenges such as school food service lacking buying power compared to outside vendors. One secondary school principal explained that their school food provider is:

making pizza's by scratch ...and then they're doing the noodles and the paninis and wraps. And she's got so much overhead to give variety that she can't...meet their price break. Or Tim Horton's price break, because Tim Horton's is buying from a distributor that's going to twenty or thirty Tim's, and so they've got a deal at this price. [Our school provider] doesn't have that buying power.

#### 6.5.2.7 Negative impacts related to student food behaviours:

Taking into account negative outcomes on school food, student protest, and outside competition offering better value for money, it is not surprising that participants reported perceived negative impacts on students' food behaviours that were related to outcomes. The majority of participants (of all types) reported students going out for lunch because of P/PM 150. One secondary school teacher had conversations with their cafeteria workers who explained that "...definitely a lot more [students] leave. [The cafeteria has] lost money now that the food policy has been in place. [They] noticed a lot less numbers coming into the cafeteria." Participants explained that students went out for lunch because they felt school food was worse and had less variety, and that outside vendors offered better tasting food at better price points. While some participants explained that there were always students that left campus even before P/PM 150 implementation, the policy seemed to be driving even more students out the door. One group of elementary students reacted negatively to the policy and predicted:

...in a way it could make it a negative influence on people, 'cause if people have healthy food inside the school, they would be like 'ewww healthy food' and then they'll go down to the convenience store and have unhealthy food that actually tastes good.

A group of secondary students also linked the negative outcomes on school food to student protest, and negative impacts on food behaviours:

well, the policy is really good, but to my understanding with the current trend it's going at, sooner or later a lot of us will not be turning to the cafeteria anymore because it's just...if we stay dependent on it, as the Ministry changes the regulations every year, the taste definitely does not improve. So it really takes away a lot of variety that people want in schools. So that really greatly affects how us kids would actually think. And we'd probably even rebel against these rules once in a while by bringing in our own food that would probably be, definitely be against the regulations

One vice principal explained that their biggest challenge in trying to keep students on campus was that they couldn't compete with the portion sizes outside of school. When asked if this was policy-specific effect, they explained: "well, prior to [the policy], we had foods that the kids could relate to...and it was cheaper...like a piece of pizza was comparable to a piece of pizza from outside. But now we can't do that, right?" Elementary school focus group participants explained that if students really wanted junk foods, they would find a way to access it, even if the school wasn't offering it. One group of parents stated: "you see [students] at lunch going to Wendy's. And it's not the Board's responsibility...like I said. They're going to eat it regardless if it's at school or not. They're spending the money, but now they're spending it somewhere else." Many participants felt that the food students were buying outside of school was less healthy than what the school cafeterias were offering before the policy was in place, so this was a concerning negative impact.

While participants perceived that the policy drove students out of the school, many explained reasons why the policy might have stopped students from purchasing school food. School stakeholders and students expressed their concern about the price, portion and taste of school food as noted earlier and showed how this was related to not eating at school. One secondary student stated:

I think that [the policy] is done well. But, like, I know that a lot of people don't eat at the caf. So they're making healthy food, but no one is eating it. So it's expensive and it doesn't taste very good, like, if...if it was cheaper and better quality...well I guess it's not going to be cheaper, but if it was better quality, people would eat it more.

Secondary school stakeholders also described their perceptions of students' frustration with school food taste, price and portions after P/PM 150 implementation and how this in turn has influenced the reduced use of school cafeterias:

- Interviewer: In terms of your cafeteria food, like what is the general consensus? Do students eat there, or do they...
- Teacher: Oh they don't eat there. They think it's disgusting...[...] Talking to the cafeteria lady, she was saying, she used to serve about one hundred fifty people a day and now she is down to like forty and I think that includes teachers.
- Interviewer: So when did that change come about?
- Teacher: As soon as P/PM 150 came through...
- Interviewer: So the students noticed a big difference?
- Teacher: Ya, cause the food is expensive and it's terrible. Like the food was kind of terrible before. But now, like, if you wanted to buy pizza now, the slices are smaller. But it's the same price as before P/PM 150.

School staff were also less likely to purchase cafeteria food post-P/PM 150 as reported by three secondary school stakeholders. Parents were also frustrated with school food changes, which caused them to stop purchasing school meals for their child: "Well I

don't order it anymore. I actually don't order from it because it's too expensive and the portion is ridiculous. The price has gone down though, because the portion is smaller."

These negative impacts on food behaviours led to the most commonly reported challenge and negative impact - revenue loss.

#### **6.5.2.8 Revenue loss (including fundraising & affordability):**

The most common perceived negative impact implementing P/PM 150 was revenue loss (including challenges with fundraising, and lack of affordability as subthemes). These themes were reported by all participant types and were interrelated. Revenue loss was the most reported challenge by all stakeholder groups. Participants spoke about fear and/or knowledge of cafeterias going out of business. One participant described, "I think the cafeterias at first really found a drop in volume and sales. Like in some places, they were worried about continuing because they're not making enough money." Even students explained "no one's gonna go [to the cafeteria]. We're gonna get to the point where they are going to shut down the store 'cause no one is buying it."

One food provider described one school that attempted to only sell 'sell-most' items; however, they had such a decrease in sales that they had to ask the school to re-introduce some of the sell less items. When they introduced more sell less items, they reported that revenues went back up. Another food provider expressed, "...we weren't impacted by having to revolutionize what we were doing [as they were already trying to serve healthier options]. At the same time, the things that we did eliminate were a very high portion of our sales." This provider also explained that having those high profit items, such as french fries, allowed

them to experiment and try offering healthier alternatives such as salads. Because their largest selling items were non-compliant, they did not have the ‘wiggle room’ to experiment with new healthy options.

Food providers felt that the policy was “driving students out the door” even if the intent of the policy was good. Some food providers reported reductions in sales post-policy. When asked if P/PM 150 affected sales, food providers’ reported that there was a significant negative impact:

Participant 1: Oh huge – probably 50-60 percent down” and “oh for sure – by about 30-40 percent reduction. And in the first year, 50 percent.

Interviewer: Do you mean 30-40 percent profit reduction?

Participant 1: No, the profit was actually way higher – I mean the actual sales reduction.

Teachers who run food programs/tuck shops also noted reduction in sales:

Has there been change to the quality of food? Yes. Has there been a decrease [in sales]? Massive... massive. I remember when I used to run the tuck shop or the school store, we were sold out every week. You’re looking at probably anywhere between a thousand or two thousand a week in sales worth of goods because of chocolate bars and so on and so forth.

School stakeholders also reported the effects of sales reduction on students:

I don’t think the Ministry realized that, you know, schools depend on the money that the cafeteria makes...the less money that the cafeteria makes, the less money that goes to students... I mean, at the end of the day, I mean, the government should be really, really, really worried that, you know, profits are coming down because, you know, these schools are relying on the money that the café makes and if they don’t make money, students suffer.

Participants noted that the reduction of sales also sometimes lead to a reduction in cafeteria staff: “I think overall initially, [there was a] thirty, thirty five percent drop in sales when this was implemented. And it hurt...like it really kicked their butt to the point where

some companies were really concerned, they started reducing their fixed costs, which is labour. An easy one to get rid of right?”

There were two reported reasons for revenue loss; an overall reduction in student food sales and increased costs for food service. While some secondary school stakeholders noted that healthier options *might* lead to reduction in sales, others explained actually witnessing this reduction. They explained that the biggest selling items were no longer compliant, and as a result, students would choose to either bring in their own food, or buy food elsewhere, often purchasing unhealthy options. One teacher explained, “the challenges involve...well it’s decimated the sales in the program. The students now go across the street to all the fast food restaurants. So it’s had the opposite effect of healthy eating. They eat worse than they ever did.”

Meanwhile, food service providers and elementary school parents explained that healthier options tended to cost more money and other costs (i.e. operating expenses, rent) are either staying the same or increasing which becomes a challenge for implementation. One food provider gave an example:

Let’s say my operating expenses are \$650/day in order to just open the doors. And now you introduce this new policy – my sales drop 40% and I’m now \$600/day. Right? So all of a sudden, I’m 50 dollars for the day, but I still have the same amount of staff, and the same overhead, and wait...here’s another problem. My rent obligations are still the same. So now it’s a 50 dollar loss everyday and it just compiles. And how do you combat that right?

Food providers explained that the cost of new, compliant products was higher. In addition, they were forced to offer lower value-for-money due to portion size guidelines. One provider described “although portion sizes may have decreased, we have to keep the

prices the same”, which deters students from using the cafeteria. One teacher that ran a hospitality class explained that suppliers impacted pricing which affected affordability:

Suppliers whack us, right...as soon as they find out...it's like when the trans-fat legislation came out, I had to buy...the shortening I had to use, it was twenty dollars more than the stuff I'd been using before. So the French fries are more expensive. Everything is more expensive because the suppliers go, 'captive audience! Thank you very much'.

All participant groups further explained that fundraising had become a challenge since P/PM 150 implementation, which also contributed to decreased profits for the school. Participants said that ‘healthier fundraising’ hurt profits. Secondary students raised fundraising concerns using the compliant recipes cookbook ('Bake It Up') as follows:

Student 1: ...for the bake sales and stuff during school, they always have to be approved by the principal now, so then everything has to be healthy. It has to fall in this specific cookbook

Student 2: And we're not to bring anything apart from that, so then...I think the clubs would actually be in a whole lot of trouble if we bought something apart from what was baked from that cookbook. And when we tried it, I can tell you for one that our sales were not very good.

Student 3: We run a club and we were doing a bake sale, and basically you can't sell half the stuff we wanted to 'cause it has to meet the guidelines. And it tasted really bad. It didn't taste like bake goods – it just tasted like...fibre.

Secondary school stakeholders also discussed problems with fundraising and the use of the cookbook. They discussed struggling to find fundraising options that were cheap, easy and compatible. When using the cookbook, they felt that the book lacked savoury options and that a lot of the products used in the book were more expensive. All food providers discussed the issue of fundraising and exemption days, which was already discussed previously regarding lack of collaboration between food service providers and schools. As

explained earlier, lack of communication and collaboration for fundraising initiatives between food service and schools was a significant challenge that not only hurt cafeteria profits, but caused tension between the two stakeholders. One food provider explained,

one school is selling hot dogs...once a week. And regular pop...they did it sixteen times in the first semester so I mean that kills our sales. And you know, they've done it for years and years. And I've heard from the lady at that school that the last food provider tried to get them to stop...and they wouldn't. But it's a fine line right? The schools are desperate for money.

To conclude, many participants highlighted the relationships between perceived challenges to P/PM 150 implementation and negative outcomes and impacts of the policy. One secondary school student nicely summarized the whole story:

I believe it should be the students who decide what they eat. Less people are buying food in our caf this year because we switched to whole wheat buns, no pop etc. So less kids are buying at the caf, and walk down the street and get their junk food fix. Just because the school does not sell the junk food, does not mean that everyone will stop eating it. Fast food is readily available in [our area], and is only a short walk to the nearest pizza pizza or tim hortons. The school should bring back the old food such as cheesesburgers, cookies, fried chicken burgers etc. They are losing out on business and lots of the caf funds go elsewhere in the school. Without the caf funding, other things hurt from it in our school.

### **6.5.3 Possible Reasons Why P/PM 150 May/May Not Have an Impact**

While some participants reported perceived negative impacts resulting from P/PM 150, others explained that they were expecting challenges in implementing the policy; however, they did not experience any. Participants from eight different schools, reported ‘no negative impacts’ resulting from implementation of the policy. As one elementary teacher described, “It wasn’t challenging, really at all. There was less of a shift than expected. [...] I can’t think of any negative feedback”. Some secondary school participants also explained

that it was less of an adjustment than expected. One principal explained that their staff were worried, “just about how will we implement it, right? And will it affect our sales, cause that’s a big thing here. But it really hasn’t. Where you run into problems is we’re close to the plaza right? But you know, our cafeteria is still full...because of what we have to offer.”

It is important to note that some of the school stakeholders that did not report any negative impacts, often had a champion or access to resources that helped them implement the policy.

When discussing potential impacts of the policy on school food and food behaviours, participants brought up possible reasons why the policy may or may not have an impact. Most commonly, participants noted that other food environments would trump the policy. All stakeholder groups talked about the fact that the home environment will have a large, if not the largest effect, on students’ food behaviours (especially elementary students). One parent explained that their child was aware of healthy eating because of “[their] shopping cart. They see what comes home in it. And that’s why I feel it comes from the home [not the school]”. Other participants explained that the policy will not change what parents purchase for their child(ren) at home and students will still bring unhealthy options from home if they can’t purchase them at school.

Other participants felt that the policy might affect some student groups more than others. For example, elementary school participants (teachers, parents, students) explained that the policy would have more of an impact on secondary school students, because they have access to a cafeteria. One parent group was asked if they thought the policy could impact their child’s eating habits; their response was:

...not at this school...they're too young at this age. I can see high school students, right, if the cafeteria's not selling the kind of fries they like, they can walk to McDonald's. So not at this school, because there is nothing really close. And the kids are young enough that their parents still want them eating healthy things."

Also, participants felt that the policy might impact some students in the school, but not all. They explained that students that always bought food from the cafeteria, will still buy from the cafeteria, and students that always brought in their lunch, will continue to bring their lunch.

Lastly secondary school stakeholders (and one food provider) explained that P/PM 150 impacts could take time. The food provider noted,

I mean, this will be the last year that there's kids in high school that knew what [school food] was like before [P/PM 150]. They'll be in grade twelve....so then after this, the rest of the kids will only have known P/PM 150 food.

A few school stakeholders explained that it was the older students that noticed the changes to school food, while the grade nine's didn't know the difference. One teacher explained that at first they heard complaints about the new school food, but after a few years passed, they didn't hear students talking about it anymore. There was also some discussion about sales and revenue coming back after some time passed by a secondary school stakeholder : "What I kept saying to the [food service provider] was that it's going to happen slow, but [revenues are] going to come back."

#### **6.5.4 Section 4.5 Summary**

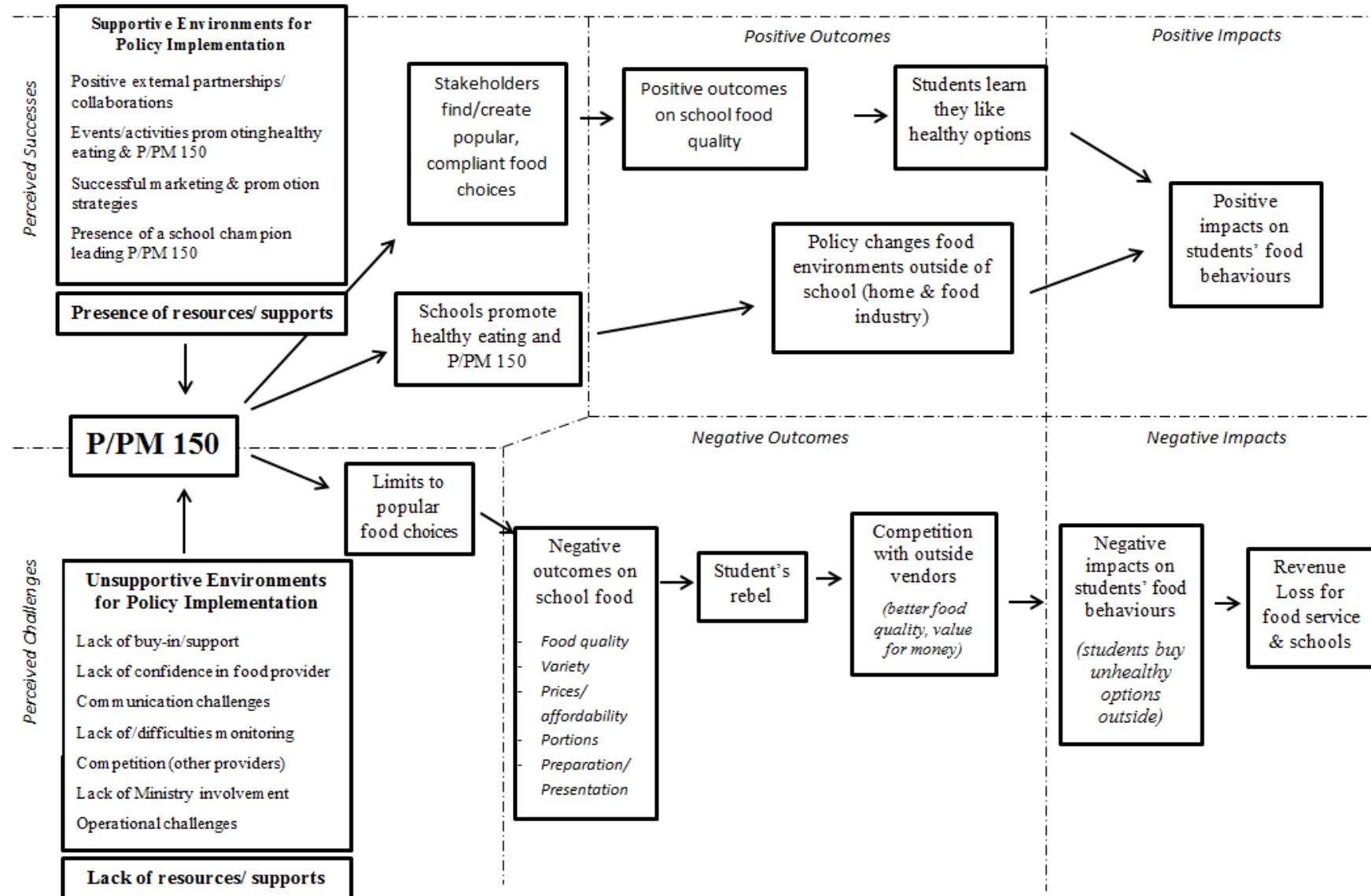
Many relationships were identified between perceived successes/challenges and positive/negative outcomes and impacts of P/PM 150 implementation. These relationships, including the themes discussed in the supportive/unsupportive environments section, are depicted in Figure 6.3. In terms of successful policy implementation, participants explained that when P/PM 150 was mandated, schools and food service were able to find or create compliant choices that students liked, leading to positive outcomes on school food quality. This, in addition to schools promoting healthy eating, led to students learning that they like healthy options which resulted in positive perceived impacts on students' food behaviours.

Participants who reported struggling with policy implementation discussed difficulty interpreting the policy standards. They felt that the policy significantly limited their food choices. With limits on what foods they could offer, participants explained that there were perceived negative outcomes on school food (including negative outcomes on taste, variety, prices/affordability, portions, food preparation and presentation) as well as unintended negative consequences such as food being 'less healthy' post-policy); because of dissatisfaction with school food, student rebellion was reported which led students' off school grounds to buy food from outside competition, which were likely unhealthy options leading to negative perceived impacts on student food behaviour. Students leaving school to purchase food elsewhere led to revenue loss (in addition to fundraising challenges and lack of affordability of new food) which negatively impacted food service providers and schools.

While many participants spoke about the implementation challenges and perceived negative outcomes and impacts of P/PM 150, a few schools did not find any negative

impacts. Participants explained that the policy might not have significant impacts because; the home environment still had the most impact on students, the policy may only affect some groups (secondary students, not elementary), and finally, that a new cohort of students would not know the difference between the old and new food.

Figure 6.3: Relationships between supportive/unsupportive environments for P/PM 150 implementation, & positive/negative outcomes and impacts



## **Chapter 7**

### **PARTICIPANT RECOMMENDATIONS**

All stakeholders were asked the question: “If you had any advice for the Ministry of Education that created the policy, what would it be?” A relatively equal number of participants gave one of two general recommendations; either get rid of the policy – or - continue with the policy. School stakeholders (including students and parents) were more likely to advise keeping the policy. They felt that the Ministry made a good decision by putting the policy in place in order to promote student health and prevent obesity and other related illnesses. Three food service providers and small number of school stakeholders felt the Ministry did not have a right to put the policy in place, and recommended getting rid of the policy altogether.

While some participants had very general comments for the Ministry as described above, many participants had specific recommendations that related to the process of implementation, the general direction/content of the policy, and the promotional/educational aspect of the policy. The majority of participants (in all stakeholder groups) had recommendations related to the process of P/PM 150 implementation.

#### **7.1.1 Recommendations Related to Process of Implementation**

Table 7.1: Summary of recommendations related to process of implementation

- |   |
|---|
| <ul style="list-style-type: none"><li>• Slow down &amp; engage all stakeholders throughout policy process</li><li>• Provide more supports/resources</li><li>• Follow up with schools &amp; monitor compliance (specific to Ministry)</li><li>• Evaluate the effectiveness of the policy</li></ul> |
|---|

#### 7.1.1.1 Slow down & engage all stakeholders throughout the policy development/implementation process:

The most frequently reported recommendation was for the Ministry to slow down the policy development/implementation process and engage the target audience throughout the process. All participant groups (except for elementary school stakeholders) explained that they would have liked some notice, or at least a chance to provide feedback before implementation. Food providers and secondary school stakeholders explained that there was no consultation. The Ministry had already written the policy before engaging with the stakeholders who would be affected. One secondary school stakeholder explained:

Well [the Ministry] created it, and they did ask for input, but it was already created. But we've made it work, and I think it is healthy and it's not anything that is going to hurt any of us, it's not. And I think it's just that, you know, that involvement, having that voice, right?"

Participants also explained that students and parents should have been able to give their opinions before the policy was created. One elementary school student stated:

My advice is give us a survey first and see if people actually want it. And then after, be like, 'okay we're going to change it if we have good feedback'. Don't just go ahead and make your own ideas.

Lastly, a secondary school stakeholder noted,

It's disheartening as a teacher because you think...they would really care about what kids think...and think...'Okay, let's sell this program to the kids'. No. They just put it into place and it was just "Oh, we're going to put this into place and the kids are going to like it. You know, who cares what they think...There was no dialogue, like, what sort of society do we live in where we're just going to ram it down kids' throats?

Some participants explained that the policy should have been phased in or implemented gradually to see the students' response. They felt that smaller changes should have been made first, instead of changing everything all at once. One secondary school stakeholder said,

I would say [my recommendation] for most of the new policies is to stage the policy. I think it came in a little too fast, and you know, all of a sudden all the beverage machines and the snack machines were all being either emptied, or you know, carted out of the schools. And I think that was difficult. I think a transition would have been good, where it could introduce a portion of the new food and then move towards baked fries and that kind of thing.

Generally, participants felt that the Ministry could have taken more time and thought to consider all factors that could affect implementation; for instance, how P/PM 150 would affect education, sales/revenue for food service and schools, and how it could positively and/or negatively impact student food behaviour.

#### 7.1.1.2 Provide more supports/resources:

The next most frequently reported recommendation regarding policy implementation was the need for more supports and resources. This was a finding mentioned by adult participants only, particularly secondary school stakeholders. The most common type of support requested was more funding for schools and food service providers. One principal explained,

I think it would be helpful though, if...if boards of education were able to provide...and it doesn't have to be a lot of money, but even a couple thousand dollars for every school as an enhancement to, you know...to just getting us through the next couple of years 'til I think we turn the tide. That would be helpful.

Participants explained that if healthy eating was important to the government and schools, then they need to support it like they would other important school initiatives. This was explained by a school stakeholder:

The reality is we need money behind it. We need some kind of funding...we need people who are going to stand up and say, you know what, this is a really important issue for us...as important as bullying or literacy, or numeracy, or whatever, right...

They also explained that “booklets and info packages only go so far” and that the Ministry and school boards need to provide more general support to schools and food service. For example, participants explain that supporting schools with equipment would have helped the transition period. Also, participants explained that while the larger food companies might not have needed additional support in implementing the policy, some of the smaller companies lacked resources and probably could have used more support for implementation.

#### 7.1.1.3 Ministry should follow up with schools and monitor compliance:

Participants (secondary school stakeholders, parents and food service providers) also spoke about the fact that the Ministry should have been following up with schools after the policy was mandated and they should have been monitoring closely to ensure schools were compliant. Some participants suggested that now that the policy has been in place for a few years, the Ministry should review what is working/what is not working in schools. Some suggested applying a ‘start, stop, change’ model. Participants felt that simply having a dialogue with the Ministry after the implementation would be very helpful.

Many participants had a very simple answer to the question asking what advice they had for the Ministry: “Monitor!” Participants explained that other schools or food service providers were not fully implementing the new standards which created tension between them; therefore, they strongly suggested that the Ministry make monitoring schools’ and food service providers’ compliance to the policy a top priority.

#### **7.1.1.4 Ministry should evaluate the effectiveness of the policy:**

In addition to monitoring schools and food service for compliance, food service providers discussed the fact that the Ministry should do a total review of the policy and its’ outcomes/impacts. Participants explained that their tax dollars have gone to creating the policy, therefore, the Ministry should be able to show evidence of the policy having a positive effect on student health or health behaviours. They discussed that there were many negative impacts resulting from the policy (jobs lost, reduced revenue for food service and schools, unintended negative student food behaviours); therefore, participants feel if the Ministry cannot show positive impacts of the policy, then they should think about changing their course of action.

#### **7.1.2 Recommendations Related to Changing the Policy Direction**

Table 7.2: Summary of Recommendations related to changing policy direction

Ministry needs to consider:

- Focus on school food is not enough. Other environments will still have a strong influence on behaviour.

Ministry should consider:

- Education/ mandatory nutrition/physical activity classes
- Reducing policy restrictions
- Tailoring policy to individual schools

#### 7.1.2.1 Focus on school food not enough:

While many participants had recommendations regarding the process of P/PM 150 implementation, participants also had recommendations that related to the policy's overall direction. Participants from all stakeholder groups (other than secondary students) felt that focusing on the content of school food was not enough to change students' behaviour and overall health. Many questioned why physical activity was not a higher priority. One teacher explained, "I'm not even a phys ed teacher but I'm saying this. I actually think phys ed is so important...I think it should be mandatory up until grade twelve and it should be each semester". A group of parents also discussed the importance of physical activity on students' health:

Parent 1: I don't disagree with this food policy. I get that the Ministry of Education is maybe trying to catch up to the times [...] but to me this should be taught as one unit in health and that's it. Let's move on, you know?

Parent 2: Or you know what? Let's get into the gym. Let's go outside. Let's go walk around, like...

Parent 3: Right – so that's where I have an issue, because the amount of times I hear 'gym is cancelled' or 'my teacher had me stay in for recess because I had three questions to finish...'

#### 7.1.2.2 Other food environments will still have strong impact on food behaviour:

Additionally, stakeholders explained that the Ministry needed to consider the fact that other environments would still have a stronger influence than a school policy, thereby limiting its effectiveness. As mentioned in the section outlining impacts, many participants felt that the home environment was still the main factor influencing students' food behaviours, and unless the policy reached parents and other outer environments, it would not have a positive impact. One parent expressed,

to me it just seems that the Ministry is sort of jumping on the whole media bandwagon of obesity...and they have said ‘well let’s start at schools cause that’s where we have kids.’ [...]. But the Ministry needs to educate the parent, not the child.

Participants felt that ideally, the policy needed to apply to all outside food outlets to be effective; however, they recognized that this was also unrealistic. Some food providers thought that if the Ministry really cared about healthy eating for students, that they should have created a bylaw instead that did not allow food outlets to be built near schools. Again, participants recognized this was impractical.

#### 7.1.2.3 Education/mandatory nutrition classes instead:

Adult stakeholders felt that instead of trying to change school food, the focus should be on educating students about healthy eating and/or having mandatory nutrition classes (and/or mandatory physical activity classes through all grades). They felt that P/PM 150 was too focused on ‘reading a label’ and did not teach students why foods are healthy and how to cook them. One teacher stated,

I think we’d be better off making food and nutrition a mandatory course and moving forward in terms of educating. Like I don’t like the idea of enforcing a policy...There is a lot of resistance to policies and when students don’t have a choice, which in essence, I guess that’s what a mandatory course would be. But at least they’re getting information and they know what to do with it. We need to teach them how to make those healthy choices outside.

Participants, therefore, felt that teaching children how to cook would be more beneficial than teaching them which store? Or school? products fit within certain guidelines.

#### **7.1.2.4 Reduce policy restrictions:**

Other suggestions for changing the policy direction included reducing some of the restrictions of P/PM 150. This was reported by students, parents, and food service providers. They felt that students should have a choice between healthy and unhealthy options. Food service providers who had studied the nutrient restrictions closely explained that by increasing the allowance for sodium and fat even slightly, it would make a significant difference in the number of compliant options.

In addition, a few participants felt that the policy promoted the use of processed food (because it was easier to fit packaged foods within the policy standards than to make compliant foods from scratch). However, they explained that the policy could be more effective if they changed the policy focus from nutrient amounts and label reading, to simply promoting fresh, home-made school food. They thought that would have a better impact on student health and possibly bring a less negative connotation to school food and the policy itself.

#### **7.1.2.5 Policy should be tailored to individual schools:**

Another recommendation related to the policy direction, was that the Ministry should consider tailoring or exempting certain groups from policy rules. Similarly to the recommendation above, participants felt that food providers (or hospitality classes) that cooked all fresh, homemade food should be exempt from P/PM 150 standards. Also all participant types felt that the Ministry should alter the policy (especially the exemption days) based on different school needs. As one parent described, "...they have to take into account

that it's easy to write something down from an office, and you have to really take into account that every school is different, every community is different. The needs are different".

Students felt similarly:

It's just like remember the number of free days you have. Depending on different schools or school sizes and like the diversity of clubs and activities, I think they should take that into consideration 'cause different schools have different needs and different clubs, so it can't just be one policy for everybody.

One school stakeholder who taught in a lower income school community thought that the Ministry needed to consider lower prices for students who could not afford the new healthier, more expensive foods.

### **7.1.3 Recommendations Related to Education of the Policy & Clarity/Consistency of Messages**

All participant groups (except for food service providers) felt that the Ministry needed to market and promote the policy more to students, schools and families. One elementary school stakeholder said:

I think it really does have everything to do with how [the policy] is marketed and how it's presented to them. I think that at the end of the day you're always going to have a group that says no and wants to rebel ... But I think that if we ... if we start connecting certain things like for example this is a really high sports oriented type of school. Athletes know that nutrition goes hand in hand with training, type of thing, right? So, if coaches and as well as teachers start saying 'the standard is this and this is what we're going to be doing' or, you know, 'this month this is what we're going to be focusing on in regards to bringing stuff in' ... I think you'll have a lot more kids that will say 'Okay, let me try it' more than the ones that will say 'No, forget it; I'm going to do whatever I want.'

Elementary and secondary school stakeholders felt that students would want to understand why and how food service providers are making foods healthier. They explained

that it would help support what they taught in curriculum and what students' learn in health classes, thereby sending a consistent message to students regarding healthy eating. School stakeholders explained that they would welcome the Ministry, school board, and/or public health representatives to come in and talk to students about the importance of healthy eating:

I think to actually educate the students [would be good]. Maybe a meeting...or an event to attend, maybe about nutrition...Not just for the teachers, but also with students, so they can actually see first-hand the effects of a poor diet...and just in general ...to know what they're eating now is important to them in the future as well...so yeah, education on that.

#### **7.1.4 Other Recommendations**

##### **7.1.4.1 Ensure good quality, variety, and reasonably priced P/PM 150 food:**

In addition to recommendations relating to the implementation process, policy direction, and education, participants gave some other general recommendations about school food. Students, parents and secondary school stakeholders all discussed the importance of maintaining good quality food, having good variety, and reasonable prices despite P/PM 150.

One school stakeholder commented as follows:

I think the overall feeling is I think kids want to eat healthy, I really do. If we give them the selections, if we give them reasonable prices, then they're going to make wise decisions. You know, if we make the food appetizing and appealing, they're going to eat it.

Students especially spoke about the importance of maintaining the taste of food. Secondary students noted, "I find that people don't always prefer or choose the healthier food 'cause it doesn't taste as good as sweets do. But if somehow [the healthy] food tasted good, more people would eat that instead of junk food", and "with teenagers, I think like they don't really care about it being healthy or unhealthy. They're biggest concern is how it tastes."

Students and parents also discussed maintaining/increasing variety of school food options as a recommendation to schools and food service. Some school stakeholders also reported their cafeterias having “a really boring menu”. In order to pique the interest of students, participants wanted to see more choices being offered. Stakeholders also explained the importance of ensuring reasonable pricing of foods. They said that students will not buy school food if they feel it is expensive or over-priced. When one student focus group was asked if they had any recommendations to the Ministry, their response was:

Student 1: Make the food cheaper.

Student 2: Make the food better quality.

Student 1: And have more types of food that people would enjoy and that's directed at teenagers. Not just ‘we're going to serve you food because we have to...and it has to be healthy.’

As suggested by this group of students, the focus for school food providers should also be to make school food interesting and intriguing to students, despite the policy standards. Food providers recognized the fact that students wanted trendy, interesting foods as described by one food provider: “The [cafeteria] ladies have a pretty good handle on what stuff the kids want and what sells. I mean, so they have to be more creative. You can't just throw out the same slop every day. You really have to pay attention to the trends and what's going on around you in the area”. Other food providers discussed the importance of going to see what their competition is serving and offering to try and match it, otherwise, they lose their business.”

### **7.1.5 Section 4.6 Summary**

Participants provided a number of recommendations regarding P/PM 150 and its implementation. Recommendations related to the process of implementation included

slowing down and engaging all stakeholders throughout the policy process, providing more resources and supports to schools in implementing the policy, following up with schools and monitoring compliance of P/PM 150 and evaluating the impacts of the policy. Some participants also gave recommendations regarding changing the policy's direction. They explained that focus on school food is not enough, and other environments will still have a significant influence on students' food behaviour. The Ministry might consider mandatory nutrition and physical activity for students, reducing policy restrictions, and tailoring P/PM 150 to individual schools' needs. Additionally, participants felt that the policy should be promoted more to students, schools and families to help them understand why the policy is mandated. Lastly, participants wanted to ensure that even with the policy in place, food options provided to students were good quality, gave good variety and were reasonably priced.

## **Chapter 8:**

## **DISCUSSION**

### **8.1 Introduction**

Peters et al. (2013) discussed the core principles of implementation research and explained that implementation research “seeks to understand and work within real world conditions” and that “context plays a central role.” Additionally, “implementation research is especially concerned with the users of the research and not purely the production of knowledge” (Peters et al., 2013). The results of this thesis addressed these principles, in which the users of the intervention (i.e. those involved in implementing or receiving the policy) discussed their experiences with implementation in their own context. Results outlined in Chapter 5 provided a depiction of the context in which policy implementation was taking place; they included student food behaviours and perceived factors that affected student behaviours within the Region (including food environments – home, school, community). It should be noted that Damschroder’s term for these food environments are ‘settings’, where inner setting refers to the school environment and outer setting refers to environments outside of school. Chapter 6 results provided a deeper understanding of policy implementation within the Region of Peel, including thoughts on the policy, how implementation occurred (the processes), the factors (enablers and barriers) affecting implementation within schools and food service companies, as well as perceived outcomes and impacts of the policy. Participants also discussed their policy recommendations in Chapter 7, which were closely linked to the policy implementation results.

Damschroder and colleagues (2009) provided a Consolidated Framework for Implementation Research (CFIR) that illustrates how constructs relating to five domains (intervention characteristics, outer setting, inner setting, individual characteristics and process) affect policy implementation. According to Damschroder et al., these constructs all interact to impact the effectiveness of implementation. The domains and constructs help to understand what factors contribute to successful or unsuccessful implementation, and in what contexts. Damschroder's framework will therefore be used to frame the discussion; results from all three chapters will be incorporated to show the relationships between the results, and the relationships between domains and constructs. In addition, findings from this study will be compared with other relevant literature.

As a reminder, for the purposes of this research: 'individuals' within the domain 'individual characteristics' can include individual students, parents, school stakeholders, or food service providers; the 'inner setting' refers to each individual school including the food service provider catering to the school (if relevant); and the 'outer setting' refers to home environments or outside community environments (including other schools, other outside food service providers, food suppliers, public health units and other external stakeholders such as the school board, or Ministry representatives).

## **8.2 Intervention Characteristics**

The first domain discussed by Damschroder (2009) is the *characteristics of the intervention* itself. This domain encompasses the following constructs: intervention source;

evidence, strength and quality; relative advantage; adaptability; trialability; complexity; design quality and packaging; and cost.

### **8.2.1 Intervention Source**

In terms of the intervention source, research has shown that perceptions of whether the intervention was internally or externally developed can influence the success of the intervention (Greenhalgh et al., 2004). Results from this study indicated that participants were often unaware or unsure of the policy source. Some felt it was a school board decision. Uncertainty of the policy source was also documented in a study by MacLellan et al. (2009), where parents felt the provincial policy should have been an individual school decision. Literature suggests that if an intervention is driven by an external source (top down approach), with little input from internal stakeholders, the intervention may be less successful (Damschroder et al., 2009; Helfreich, Weiner, McKinney, & Minasian, 2007; MacLellan et al., 2009; McKenna, 2003). A few participants who were aware of the intervention source (usually those involved in food procurement) questioned the credibility of those who created the policy which poses the next challenge for implementation.

### **8.2.2 Evidence, Strength & Quality**

Credibility of the intervention source is also linked to the perceived evidence, strength and quality on which the policy is based. Literature suggests that stakeholders might be more accepting of a new policy if they feel that the current evidence (whether research-based, or clinically-based) supports the reasoning behind implementation (Masse et al., 2013; Damschroder et al., 2009; MacLellan, et al., 2009; Durlak, et al., 2008). Most participants in

this study felt that the Ministry of Education “[knew] what they were doing”, and that P/PM 150 was implemented because of unhealthy student behaviours leading to increasing rates of obesity and diabetes in children and youth. Some participants also noted that the policy promoted healthy eating which was known to have positive outcomes on student learning. This was corroborated by results from Vine and Elliott (2013) where study participants addressed linkages between hunger, accessibility to healthy foods, and student learning.

While participants felt they understood the reasoning behind P/PM 150, many questioned the potential impact of the policy, mainly due to concerns about the policy not being reflective of healthy eating, and P/PM 150 not taking into account other environments. Masse et al (2013) discussed the importance of communicating health evidence supporting policy development and implementation. Similarly, participants in this study recommended that the Ministry should have more clearly explained the reasoning behind the mandated implementation of P/PM 150. Therefore, this suggests that more transparency from the Ministry of Education regarding evidence and reasoning behind the development of P/PM 150 may have led to greater acceptability of the intervention in its initial stages.

### **8.2.3 Relative Advantage**

Implementation success was also linked to the perceived relative advantage of the policy versus implementing another solution (Damschroder et al. 2009; Durlak et al. 2008; Greenhalgh,et al. 2004); this means that for effective implementation to occur, stakeholders must feel that school nutrition policies are the best solution to addressing healthy eating and rising obesity rates. While participants in this study recognized the benefits of P/PM 150 (promoting healthy eating, increasing access to healthy foods, educating students, etc.),

others questioned its limitations. Participants felt that focusing on school food was not sufficient and reported concerns that physical activity was not addressed by P/PM 150, nor did the policy impact other environments outside of school (home and community), which limited the perceived effectiveness of the policy. This was especially relevant, as study results showed that most students typically brought their food from home, and that parents had a significant influence on behaviour, specifically for elementary school students.

These results support Bronfenbrenner's ecological systems theory, which suggests that outer systems, including home and community environments play a key role in determining student behaviours (Bronfenbrenner, 1994). These multiple systems can complicate implementation which can limit the policy's relative advantage. In addition, current literature suggests that while the school environment is important, other environments still have strong impacts on student food behaviours and this could impact policy effectiveness (Briefel et al., 2013; Coleman et al., 2012; Olstaad, et al. 2011; Woodruff, et al., 2010; Vereecken, et al., 2009; Mendelson, et al., 2007; Wojcik et al., 2006). Studies have also shown that food brought from home (Briefel, et al., 2013; Downs, et al., 2012; Taylor et al., 2012) and food purchased outside of home or school (Woodruff, et al., 2010) was often less healthy. With competition from outside food sources being a significant barrier to policy implementation, it is not surprising that working with outside food outlets towards healthier options, and bylaws restricting the building of fast food outlets near schools were suggested recommendations by participants in this study and other studies (Morin, et al., 2015; He, et al., 2012).

In addition to environmental influences, results from this study identified a number of additional factors influencing student food behaviours, including age, parent and peer influence, media, socio-economic status, and weather. All of these factors further complicated policy implementation as they were thought to influence student behaviours regardless of the presence of a school food policy. Some of these factors are strongly supported by the literature; for example, social influences (including peers, parents, and media) have been cited frequently as important influences on student behaviours (Vereecken, et al., 2009; Wharton, et al., 2008; Briefel, et al., 2013). Additionally, research has shown that socio-economic status of the household and the school community impacts student food decisions (Vereecken, et al., 2009; Coffield, et al., 2011; Olstaad, et al., 2011; Vine & Elliott, 2013; Vine & Elliott, 2014).

All of the above contextual factors have been shown to complicate policy implementation and its effectiveness as they compete with the policy. Implementation research suggests that in order for individuals to perceive an advantage to the intervention, they must believe that it will work and that the intervention will lead to its' intended impacts (Damschroder et al., 2009; Durlak, et al., 2008; Greenhalgh, et al., 2004). The contextual factors described above contributed to the reasons why participants in this study felt that P/PM 150 might be ineffective in changing student behaviours; however, some participants reported potential for positive impacts. Participants who thought the policy had potential to positively impact student behaviours, felt that success was conditional on a number of other factors, such as funding, resources and support and buy-in. These factors will be discussed in greater detail in constructs described later in the discussion.

#### **8.2.4 Adaptability**

The next construct relating to the intervention characteristics domain in the Consolidated Framework for Implementation Research (CFIR), is adaptability; it is defined as the degree to which an intervention can be adapted to meet the needs of each individual organization in which it is being implemented (Damschroder et al., 2009; Durlak, et al., 2008). As explained in Chapter 3 which outlined the theoretical framework, interventions can consist of ‘core components’ and ‘adaptable peripheries’. In the case of P/PM 150, the core component would include the main nutrition standards, while the exemption days available to schools would be considered the adaptable periphery. Exemption days are considered adaptable because they can be tailored to each individual school based on their needs.

Although participants in this study described being grateful for having exemption days (usually for fundraising purposes), most explained that the nutritional standards of the policy were ‘extreme’ and too strict. Research by Vine and Elliott (2013) which studied Ontario school food policy implementation around Hamilton, Ontario, also described P/PM 150 as ‘restrictive in nature’. Some participants recommended that the Ministry tailor the policy to specific school needs. This was a common recommendation emerging from other studies on implementation of school nutrition programs and policies (Coffield et al., 2011; Downs, et al., 2012). Research has shown that the more flexible, or adaptable the intervention to specific real-world contexts, the greater likelihood for successful implementation (Damschroder, et al., 2009; Greenhalgh et al., 2004; Durlak, et al., 2008). Not only is adaptability positively associated with implementation, but the intervention is also more

likely to be sustained if individuals and/or organizations can fit it easily into their daily practices.

### **8.2.5 Trialability**

In addition to adaptability, the trialability of the intervention (ability to test the intervention at the local level before full implementation) has shown to have either positive or negative associations with implementation (Damschroder, et al 2009; Kitson, et al, 1998). A few participants mentioned pilot schools testing the policy before it was mandated. There was uncertainty as to whether the pilots were a Ministry-led initiative. Furthermore, participants were unable to speak to the results of the pilot test. Participants reported some surprise regarding policy changes, and some indicated that the Ministry should have phased them in. Other studies of nutrition policy implementation have also recommended the need to test policies in school environments before their full implementation (Adamson et al., 2013; Crepsinek et al.; 2009). As recommended by the Medical Research Council (UK) report on developing and evaluating complex interventions, it is highly advisable that interventions of this nature should be tested on a smaller scale before they are implemented on a provincial level (Craig et al., 2008).

### **8.2.6 Complexity**

The complexity of the intervention is another factor known to affect implementation (Damschroder, et al 2009; Greenhalgh,et al., 2004). For instance, complex interventions that target multiple factors, although more challenging to implement, are likely to be more successful. In contrast, simple interventions are easier to implement; however, they are less

likely to produce desired changes as they do not take into account all influencing factors (Jaime-Lock et al., 2009; Damschroder et al. 2009). P/PM 150 could be seen as a relatively simple policy as it only addresses one domain of comprehensive school nutrition models; the policy only affects food sold at school and not other aspects of school food (i.e. free food given at school, nutrition programs, food as reward, cultural food choices, foods for school staff). In terms of P/PM 150, there were mixed feelings about the complexity of the policy. Some, but not all, felt it was relatively easy to implement. Elementary school parents and stakeholders who were in charge of food order days were more likely to report struggling with the interpretation of policy standards compared to food service providers from larger organizations. This was likely because larger food organizations had access to supplies and necessary resources, such as dietitians, to assist with policy interpretation. Other research evaluating food policy implementation supported these results. An Australian study found that most canteen managers did not report difficulty implementing their nutrition policy (Pettigrew, et al., 2012). On the other hand, a Nova Scotian study found that school staff and volunteers who did not have formal nutritional training or resources, struggled with implementation (McIsaac, et al, 2015). Other implementation research studies also reported challenges with interpretation and a lack of knowledge and skills to implement policies (Downs et al., 2012; McKenna, 2003; McIsaac, et al., 2015). These results suggest the need to provide more support to schools where teachers and volunteers without (or with limited) training are responsible for implementation. Training and resources will be discussed later.

While difficulties with policy interpretation are linked to complexity, perceived ease of implementation can also be linked to complexity. If an intervention is perceived as ‘easy

to implement', there is a greater likelihood for effective implementation (Damschroder et al., 2009). This study revealed that participants had many perceived challenges with P/PM 150 implementation, which increased its' perceived complexity. For example, compliant foods did not exist in the food industry at the time of implementation. This presented a significant challenge to participants who were responsible for implementation. One of the most frequently reported challenges for implementation was the significant limits to food choices (including popular items not being compliant and limits to portion sizes) which often led to decreased revenues. Findings from other studies reported similar challenges (Moore, et al., 2010; Pettigrew et al., 2012; Vine & Elliott, 2013). These challenges contribute to the perceived complexity of school food policy implementation. Facilitating more communication and increasing levels of support between schools, food service companies, and food suppliers may help alleviate some of these challenges, thereby decreasing the perceived complexity of policy implementation.

### **8.2.7 Design Quality and Packaging**

While Damschroder and colleagues (2009) suggest that the way in which an intervention is designed, packaged and presented to organizations can promote implementation, participants in this study did not specifically speak about this construct. Adult participants *did* mention receiving the policy itself and the resource guide, but not much more was said. No studies were found in food policy implementation that spoke specifically to this construct. Participants did briefly talk about the way in which P/PM 150 was presented; they explained that it came into schools very quickly with limited warning, and that certain stakeholders (food service providers) knew about the policy before school

staff. A recommendation for future policy implementation is that sufficient warning should be given to all stakeholders who may be affected by the policy, allowing them to prepare for the change thereby fostering more acceptance of the intervention.

### **8.2.8 Intervention Cost**

The final construct under the intervention characteristic domain is the perceived cost of the intervention (Damschroder, et al., 2009). This construct was discussed frequently by participants not only in this study, but in other literature on school nutrition policy development and implementation (Vereecken, et al., 2005; Bergman et al., 2010; Fox, et al., 2005; Coleman et al., 2005; Wharton, et al., 2008; Agron, et al., 2010; Downs et al., 2012; Olstaad et al., 2011; MacLellan et al., 2009; Masse et al., 2013; McKenna 2003; Taylor et al., 2011; Rideout et al., 2003; Vine & Elliott, 2013; Vine & Elliott, 2014; McIsaac et al., 2015). Fear of revenue loss and reported reduction of sales were the top P/PM 150 challenges discussed by participants. Fear of reduction in food sales leading to loss of revenue was also common barrier cited in the literature (Fox et al, 2005; Coleman et al., 2012; Wojckicki et al., 2006; Bergman et al., 2010; Wharton et al., 2008; Agron et al., 2010; Downs et al., 2012; Olstaad et al., 2011; MacLellan et al., 2009; Masse et al., 2013; McKenna 2003; Vine et al., 2013). Concerns for cafeteria's shutting down, and cafeteria staff losing jobs were also reported in this study and in an Ontario study by Vine (2013).

Revenue loss, specifically from fundraising, was also considered a large barrier to policy implementation, especially for elementary schools. Literature also supports this finding (Bergman et al., 2010; MacLellan et al., 2009; McKenna 2003; Taylor et al., 2011; Vine et al., 2013 ). Reduction in profits and revenue loss from fundraising are significant

causes for concern as schools typically rely on profits from cafeteria sales and fundraising, for other school initiatives and programs (sports teams, music programs, etc.).

Another factor related to intervention costs is the lack of affordability and higher cost of healthy food options. Many studies report higher costs for healthier foods (Olstaad et al., 2011; MacLellan, et al., 2009; Taylor et al., 2011; Vine & Elliott, 2013; McIsaac et al., 2015; Vine & Elliott, 2014). This was also a common concern for study participants, especially for those schools located in lower -income communities.

When discussing typical food behaviours, many participants reported taste and cost to be significant influences on their choices; healthy eating was not as high a priority. Research suggests that student food decisions are often influenced by taste and price, more than nutritional quality (Vereecken et al., 2005; Wojcicki et al., 2006; Downs et al., 2012; Olstaad et al., 2011; Rideout et al., 2003); therefore, higher cost of compliant, less popular food items is a significant barrier to policy implementation.

While a few studies have shown that school nutrition policy implementation is possible without significant losses in revenue (Fox, et al., 2005; Wharton et al., 2008; Downs et al. 2012; French et al., 2001), most were studies conducted in the USA where increased participation in the National School Lunch Program was thought to buffer financial losses from school food policies. In the Canadian context, research by Olstaad and colleagues (2011) has suggested that competitive pricing of healthier options could offset profit losses. In this study, marketing and promotion strategies were implemented by some food service providers to try and promote students to purchase food on campus, which were considered

policy implementation successes in some schools. Participants also mentioned lack of funding from the Ministry of Education for implementation as a problem. They recommended that the Ministry provide additional funding to schools and food service providers to offset some of the additional costs of policy implementation.

These results suggest that even without additional government or Ministry funding, marketing, promotion, and pricing strategies might be effective in buffering potential profit losses from school nutrition policies. Additionally, stakeholders who are responsible for policy implementation (at the school or food service level) should work with food providers and suppliers to find healthy, compliant options that are popular with students and can be offered at a reasonable price to pique their interest and ultimately promote school food and cafeteria food sales. These themes and strategies will be discussed in more detail later in the discussion.

### **8.3 Outer Setting**

In addition to intervention characteristics affecting implementation, factors from the outer setting have potential to influence implementation. The constructs that encompass the outer setting include: student needs and resources (adapted from ‘patient needs and resources’); cosmopolitanism; peer pressure; and external policies and incentives (Damschroder et al., 2009).

#### **8.3.1 Student Needs and Resources**

This construct describes the extent to which student needs are known and prioritized by the organization (i.e. school and food service organizations) (Damschroder et al., 2009).

Health implementation literature suggests that when organizations are ‘patient’-centered, there is greater likelihood for success. Likewise, one can assume that schools that are student-centered would have the same result. School stakeholders as well as food service providers recognized the importance of understanding students’ needs and therefore conducted surveys to better understand what foods students wanted served in cafeterias and their food programs. However, due to strict policy guidelines, many student suggestions were not able to be met. Students also reported questioning why surveys were being conducted if food providers were not going to address their suggestions. Similarly, a San Francisco study on nutrition standards also reported polling students on their food needs and suggested that students were “instrumental” in the process of implementing nutrition standards into the schools; as a result, students reported overall positive impacts on school food (Wojcicki et al., 2006). Different (potentially less restrictive) policy standards and other contextual factors may explain why positive effects on food were reported in San Francisco after student polling, and not in Peel Region. Surveying students on their food needs during the development stages of a nutrition policy may therefore be more beneficial than polling after implementation has been mandated. This will be addressed further during the discussion on stakeholder engagement.

### **8.3.2 Cosmopolitanism**

Cosmopolitanism refers to “the degree to which an organization is networked with other organizations” (Damschroder et al., 2009). There are two constructs that relate to networks and connections – ‘*cosmopolitanism*’ in the outer setting (describing the schools’ [including the schools’ food service provider] connections to outside organizations) and

*'networks and communications'* in the inner setting (describing networks within the school environment). The latter will be discussed under the inner setting domain.

Two positive external partnerships were identified by participants; the first was positive partnerships with food suppliers and the food industry. School stakeholders and school food providers were able to reach out to food suppliers regarding the creation and reformulation of compliant products. This was key to successful implementation. The food industry and food suppliers have been identified in other studies as important partners in school nutrition policy implementation (Taylor et al., 2011; Crepsinek et al., 2009; Rideout et al. 2003). Despite successes reported by some participants, others reported struggling to find compliant items through food suppliers, which posed a challenge to implementation. Unfortunately, given that the food industry is competitive in nature, it is not likely that suppliers or the food industry would share their successes in finding compliant foods that are also popular with students presenting another outer setting challenge.

The second positive external partnership identified in relation to P/PM 150 implementation, was the regional health unit. Peel Public Health held events for schools, parents and students (Peel Student Food Expo and Cafeteria Revolution), provided resources for healthy eating, offered support to individual schools through public health nurses, and hired School Food and Beverage Policy coordinators/consultants to help schools with the policy transition.

One partnership that was rarely mentioned in this study, but is considered important in other school nutrition policy literature is a partnership with dietitians (Crepsinek et al.,

2009; MacLellan et al., 2009; MacLellan, et al., 2010; Vine & Elliott, 2013). This limited connection with dietitians is however, not unique to this study. McKenna (2003) also reported dietitians playing a limited role in nutrition policy implementation. Dietitians have the capabilities to provide the necessary support regarding nutrient requirements. Specifically, dietitians who work in public health or other community-based programs may be ideal professionals to work in collaboration with others in schools.

*'Partnerships and services'* is also the fourth pillar of comprehensive school health which supports the importance of building strong connections with individuals, groups and organizations outside of the school community (Veugelers & Schwartz, 2010). Schools with strong external partnerships will likely have more support for policy implementation, which can help ease their transition into policy compliance.

### **8.3.3 Peer Pressure**

This construct describes the pressure associated with adopting an intervention because other organizations (some of which may be considered competition) have already implemented. In this case, the only type of peer pressure described by participants, was the knowledge of other schools either following guidelines, and being successful with policy implementation; or in contrast, knowledge of other schools (or food services within schools) not following policy guidelines (i.e. still offering non-compliant items, deep-frying foods, etc.) which had the opposite effect of positive peer pressure. Participants explained that a contributing factor to schools not following guidelines was the lack of monitoring of P/PM 150 implementation. Lack of monitoring has been identified as a common barrier to schools adopting nutrition guidelines (Adamson et al. 2013; Wharton et al., 2008; Agron et al., 2010;

Masse et al., 2013; Morin, et al., 2012; McKenna, 2003; Taylor et al., 2011; McIsaac et al., 2015; Lysyk, 2013). Some of these studies have suggested that while mandatory nutrition policies are in place, schools have been found to serve non-compliant items. A study by Taylor et al. (2011), found that “for more than 50% of the schools surveyed, 20% or more of the foods sold at lunch were prohibited by the policy” (p. 209). Similarly, research by McIsaac et al (2015), found that in Nova Scotia schools, 12-45% of items offered were not policy compliant. In Ontario, the Auditor General’s report explained that none of the school boards that were visited had checked to ensure their cafeterias were compliant with policy standards (Lysyk, 2013). Without monitoring schools on compliance, there is no ‘peer pressure’ for schools to comply with policy standards. These findings suggest that having a monitoring system in place is critical for effective and successful implementation (Durlak et al., 2008; Greenhalgh, et al., 2009; Fixsen et al., 2005); this was also a recommendation by participants in this study.

### **8.3.4 External Policies and Incentives**

This construct refers to other existing external policies (including other mandates, guidelines) or incentives that can potentially support or hinder implementation. Participants in this study did not mention any additional policies that would affect school food, or school food environments, nor did they mention any known incentives for policy compliance. A few studies have suggested that providing incentives to schools (Fixsen et al., 2005; Durlak et al., 2008; McIsaac, et al., 2015), specifically monetary incentives (Taylor et al., 2011) might be an effective strategy to ensure compliance.

### **8.3.5 Proposed Additional Construct: Implementation Climate Outside of the School/Organization**

One significant barrier to policy implementation that was reported in this study and that did not fit within any of Damschroder's constructs was the existence of external competition – specifically, competitive food vendors outside of the school. While Damschroder's framework acknowledges implementation climate *inside* of the school as an influencing factor in policy implementation (Damschroder et al., 2009), results from this study have suggested that the implementation climate *outside* of the school can also play a key role. As suggested by the ecological systems theory, outside systems (community environments) can impact individual choices (Bronfenbrenner, 1994). Because outside vendors were not bound by a policy, participants often explained that they capitalized on student populations, offering large portions of non-compliant foods at competitive prices. For provinces with voluntary guidelines, outside competition was found to be a significant barrier to policy uptake (Downs et al., 2012). In this study, food vendors outside of schools were easily able to meet students' needs (such as taste, portions, and price) which were reported influences on student food behaviours. Because schools were required to put health as their top priority, the differing implementation climate outside of schools created a significant challenge. This study, as well as other research, has shown this negative phenomenon to have a negative impact on school nutrition policy implementation, where students often leave school grounds to access outside unhealthier food options (Fox et al., 2005; Vine et al., 2014).

Competition from outside vendors was also a significant barrier to those schools located in densely populated areas, such as Mississauga & Brampton. In these cities, multiple outside vendors were easily accessible within walking distance. The GIS mapping component of this 5-part research study identified that the average number of food outlets surrounding schools in Peel was high (4.76 and 25.58 within 500 and 100 m respectively) with a maximum of 36 (within 500m) and 65 fast food outlets (within 100m). Proximity to fast food outlets, convenience stores and other food establishments have been shown to have negative impacts on student food behaviours (Downs et al., 2012; McKenna, 2003; He, et al., 2012; Taylor et al., 2011; Vine & Elliott, 2013; Morin, et al., 2015; Vine & Elliott, 2014). Some recommendations have been suggested to combat this issue. They include, schools collaborating with outside vendors to provide healthier options (McKenna, 2003), developing zoning policies limiting the number of fast food outlets being built near schools (He et al., 2012), and working with restaurants to improve the nutritional quality of their offerings (Morin, et al., 2015). However, until all food vendors place ‘health’ as their top priority, thereby fostering a supportive climate inside and outside the school, improvements to the successful implementation of school nutrition policies may be limited.

## **8.4 Inner Setting**

Inner setting (including individual schools and their school cafeteria food providers) encompasses the following constructs: structural characteristics; networks & communications; culture; implementation climate; readiness for implementation.

#### **8.4.1 Structural Characteristics**

Study results have shown that the structural characteristics of the school such as, nutrition courses, kitchen facilities, staff turnover rates, can positively or negatively influence implementation. Schools that offered nutrition and/or hospitality classes often reported discussing P/PM 150 guidelines in class. If students are more knowledgeable of the policy (also a factor in relative advantage) students may be more accepting, leading to successful implementation. The importance of linking nutrition policies to the school curriculum was also suggested in the literature (McKenna, 2010; Adamson et al., 2008). Linking school health policies into the curriculum would also support the Comprehensive School Health Framework by combining two pillars: '*healthy school policy*' and '*teaching and learning*' (Pan Canadian Joint Consortium, 2010; Veugelers & Shwartz, 2010). One identified barrier to incorporating the policy into curriculum was specific to hospitality classes. Certain cooking methods (i.e. deep frying), while banned by the policy, are necessary food skills for students hoping to work in the food industry. For these reasons, teaching nutrition policies in hospitality classes was not considered a priority.

Another structural barrier to policy implementation, identified by adult stakeholders in charge of food programs/cafeterias, was the lack of proper facilities in schools. As deep frying was no longer considered compliant according to P/PM 150, food providers talked about the need for replacement of the lost cooking method (for example, additional ovens). Research suggests that having proper facilities is critical for successful policy implementation (Bergman et al., 2010; MacLellan et al., 2010; Taylor et al., 2011). Financial

resources may be required to support changes to kitchen equipment to be able to adapt to the new policy in schools.

Finally, school stakeholders are key players in the adoption of policy guidelines (which will be discussed in more detail under the construct of ‘engaging stakeholders’ in the process domain), as many times they can act as champions for policy implementation (Pan Canadian Joint Consortium, 2010). Food providers explained that it was helpful to have the support of a principal or teacher to promote the policy within the school and to coordinate exemption day schedules with food providers; however, high staff turnover rates can challenge the sustainability of successful policy implementation. This speaks to the need to sustain training on new food policies in schools. While other research supports engagement of champions for program sustainability, which will also be discussed later in more depth, they do not discuss staff turnover as a key structural element for policy implementation.

#### **8.4.2 Networks & Communications**

While ‘cosmopolitanism’ discussed networks and partnerships between schools and outside organizations, Damschroder et al., (2009) also discusses the importance of strong networks and communications within the school (organization) to support policy implementation. Within-school networks, described by participants, that influenced P/PM 150 implementation included relationships between school stakeholders, students and food service providers (note: food service providers have been included in the inner setting as they operate within the school environment even though some are governed by larger organizations externally). Networks between school stakeholders and students existed in the form of school health teams, many of which helped promote P/PM 150 throughout the

school. These types of teams are considered essential to successful implementation (Vine & Elliott, 2013; Pan Canadian Joint Consortium, 2010).

Arguably, the most important partnership in terms of food policy implementation is the partnership between school stakeholders and their school food provider. While some participants reported a strong, positive relationship (especially when the principal was considered supportive), others reported tension and a lack of communication between schools and food service. This often led to challenges with implementation, specifically concerning exemption days. Given that the CFIR framework (Damschroder et al., 2009) includes constructs related to networks and partnerships both in the outer and inner settings, the importance of strong partnerships, collaborations and communication for effective implementation is clear. Other research strongly supports this (Bergman et al., 2010; Greenhalgh et al., 2004; Moore et al., 2010; Veugelers & Schwartz, 2010; MacLellan et al., 2010; Crepsinek et al., 2009).

#### **8.4.3 Culture & Implementation Climate**

‘Culture’ and ‘implementation climate’ are two identified constructs that can influence implementation effectiveness. While the implementation framework separates them as two separate constructs, they are often used interchangeably. However, culture – the “norms, values, and basic assumptions of a given organization” – is considered to be more stable over time, while implementation climate – the “absorptive capacity for change” – is known to vary between contexts and is considered less stable over time (Damschroder et al., 2009). For the purposes of this study, both culture and climate were closely linked; therefore, they will be discussed together here.

Overall, both of these constructs relate to whether or not schools (and individuals within those schools) are generally supportive of healthy eating, healthy eating promotion and nutrition policies. Schools that prioritize healthy eating seem to have a greater chance at successful nutrition policy implementation, compared to schools that show lower levels of support for health initiatives. Durlak (2008) suggests that innovations are more likely to be adopted by individuals or organizations that are open to change. Similarly Agron et al., (2010) explained that communities that value health and wellness were more supportive of school wellness policy implementation. Therefore, it is important to understand the culture and implementation climate of schools in which policies are being mandated.

As mentioned in the construct – ‘networks and communications’ - study results showed that food service providers found it easier to implement the policy when working with supportive principals. While participants never stated explicitly whether their school was ‘supportive’ of healthy eating, there were mentions of supportive staff, principals, school champions that helped to promote policy uptake within the school, thereby easing implementation. Presence of other healthy goals and initiatives in the school (role modeling healthy behaviours, not using food as rewards) also helped to contribute to a positive school nutrition policy implementation climate. Additionally, many food service providers explained that serving nutritious food was a priority in their companies before P/PM 150 was mandated. For such providers, the policy was less of a shock because they were already working towards the goal of healthy meals and products. Other research has shown that endorsement of policies or buy-in from school stakeholders, are factors leading to successful

nutrition policy implementation (Agron et al., 2010; Vine & Elliott, 2013; Downs et al., 2012).

In contrast, lack of buy in and support was a top barrier for implementation of P/PM 150 in this study. A few participants explained that healthy eating is seen as ‘peripheral’ in their schools when compared to curriculum. Also, some study participants that were identified as school food champions reported lack of school stakeholder buy-in and support to be a common barrier to healthy eating and P/PM 150 implementation. Stakeholder support and buy-in (including students, parents, school stakeholders, and food service) has been identified as a key facilitating factor for nutrition policy implementation in the literature (Agron, et al.,2010; Taylor et al., 2011; McIsaac et al., 2015; Quintanilha et al., 2013; Coleman, et al., 2012; Downs et al, 2012; MacLellan et al., 2010; Masse et al, 2013; Durlak et al., 2008). This finding supports the importance of communication of policy goals; if stakeholders are better informed and educated about reasons behind the policy, the increased likelihood that they will support its implementation.

#### **8.4.4 Readiness for Implementation**

The CFIR includes ‘leadership engagement’, ‘available resources’, and ‘access to information and knowledge’ as sub-constructs under the construct ‘readiness for implementation’. In general, participants reported P/PM 150 implementation as ‘sudden’. Even the few participants who reported being involved in P/PM 150 committees reported a lack of time for the creation of policy resources. This will be discussed further under the ‘process’ domain.

In terms of ‘leadership engagement’, implementation research suggests that for successful school policy implementation, schools need to have leaders in place that are committed, involved and accountable for implementation. While leaders or champions were identified by participants (as mentioned earlier in the discussion), none mentioned accountability for policy implementation. This is perhaps because changing school food to meet standards falls on the food service providers, not school stakeholders.

‘Availability of resources’ was also considered an important factor for implementation readiness. Many participants identified a lack of resources for policy implementation. Food service providers reported a lack of funding for policy implementation. Meanwhile, elementary school stakeholder (including parents in charge of food order days) also reported lack of time, volunteers, and facilities, in addition to lack of funding. Other studies have found similar gaps in terms of available resources and supports for policy implementation (MacLellan et al., 2010; Downs et al., 2012; Agron et al., 2010). One possible explanation for the difference in resource needs between groups could be that food service providers are often part of a large organization whose purpose is food and menu development and who likely have access to experts, such as dietitians. On the other hand, elementary school food programs are run by volunteers (often parents and teachers) who are likely neither trained in nutrition, nor have access to kitchen facilities to effectively run food programs. Therefore it is understandable that elementary school participants reported greater need for support. The potential role of dietitians was discussed in ‘cosmopolitanism’, and is also relevant for helping to support schools in their readiness for implementation. Additionally, other studies have recognized the importance of funding to support schools in

implementing nutrition policies (Adamson et al., 2013; Bergman et al., 2010; Agron et al., 2010; Downs et al., 2012; Taylor et al., 2011; Vine & Elliott, 2013).

‘Access to resources’ is also linked to ‘access to information and knowledge’.

Training those responsible for policy implementation is important for preparing schools and stakeholders for policy implementation. While some participants mentioned attending P/PM 150 training sessions, a few reported them to be unhelpful or not relevant to their school context. Other studies have shown that training those involved in policy implementation and/or providing nutrition education are important factors in determining implementation success (Pan Canadian Joint Consortium 2010; McKenna et al. 2010; Taylor et al., 2011).

Agron and colleagues (2010) addressed the fact that training needs are different for different groups. Therefore, to prepare schools for successful implementation, adequate resources and supports for training are tailored to different school and stakeholder needs (elementary, secondary school stakeholders, food service providers) are needed. Providing necessary funding to support schools and food service providers is also critical to effective nutrition policy implementation. Not only does training on the policy have to be tailored or adapted to the context of the school, but study findings also revealed that the inner setting of the school had to be somewhat adaptable to implement a strict policy. This is discussed in the next section.

#### **8.4.5 Proposed Additional Construct: Adaptability of the Inner Setting**

The CFIR framework addresses the need for ‘adaptable interventions’ that can be tailored to meet individual school needs. Because P/PM 150 nutritional standards were mandatory and considered to be strict (limiting the policy’s adaptability), participants often

talked about ways *they* (their school or food organization) adapted to the policy. This was not a construct addressed in the ‘inner setting’ and is therefore a new proposed construct for the CFIR. Ways in which schools and food service have adapted have already been mentioned throughout other constructs. Examples included, running school events and activities promoting the policy and/or healthy eating, conducting surveys to better understand students’ food needs that would inform changes to food offered, seeking out food suppliers to create compliant products, searching for/finding/creating compliant products that students enjoy, finding strategies for revenue generation (i.e., marketing and promotion strategies), and introducing new technologies to peak students’ interest (i.e. Vitamix blenders, panini-makers). These were all examples of the activities and/or strategies used by schools and food service to adapt to meet the policy guidelines (guidelines that were not adaptable) and to try to avoid possible negative consequences or impacts that resulted from policy implementation. Other literature has also described strategies (or identified the need for strategies) to adapt to policy guidelines, although, most are in reference to pricing strategies, marketing and promotions relating to the prevention of revenue loss (Massey et al., 2013; Bergman et al., 2010; Fox et al., 2005; French et al., 2002; Olstaad et al., 2011).

## **8.5 Characteristics of Individuals**

Damschroder et al., (2009) has dedicated a domain specific to the characteristics of individuals, which include the following constructs: ‘knowledge and beliefs of the intervention’, ‘self-efficacy’, ‘individual stage of change’, individual identification with the organization’ and ‘other personal attributes.’ While this study did explore individual

perceptions, most results fell under the category of ‘knowledge and beliefs of the intervention’. While the other constructs in this domain are relevant to health science implementation, they were not addressed in the results of this study.

Individuals’ knowledge and beliefs of the intervention were closely tied to stakeholders’ perceptions of the ‘evidence, strength, and quality’ as discussed under the ‘intervention characteristics’ domain discussed earlier. While some participants understood the evidence and reasoning behind the policy and were therefore supportive of implementation, others did not feel the same way; those individuals either believed that another more suitable intervention should be implemented instead (relative advantage) or that no intervention was necessary. There were significant concerns about nutrition policy implementation and the role of government and schools in feeding children. This was a common belief amongst participants, especially students and parents. Many felt that the government was overstepping boundaries by limiting food options for students. Research by MacLennan et al. (2010) and Taylor et al. (2011) corroborated these results, in which parents felt that what students’ eat should be the parents’ responsibility, not the schools.

Additionally, reported cases of student rebellion and protest against P/PM 150 sent a clear message about students’ “attitudes and value placed on the intervention” (Damschroder et al., 2009). Students reported protesting the policy because of the belief that P/PM 150 would take away students’ freedom of choice. Also, they felt P/PM 150 would have (or had) negative consequences on the price and taste of food. Similar concerns were reported in other nutrition policy research (McKenna 2003; Pettigrew et al., 2012; MacLellan et al., 2010; Taylor et al., 2011).

All of these factors influencing individuals' knowledge and beliefs of the intervention lead to stakeholders' overall *acceptability of the intervention*. This is another possible construct that contributes to the 'characteristics of individuals' domain. It is therefore important to understand the current knowledge and beliefs of students, parents, school stakeholders, and food service providers as they are the ultimate recipients of the intervention. Their overall acceptance of the policy is key to determining potential policy success.

## **8.6 Process**

The CFIR constructs that fall under the 'process' of implementation include: 'planning', 'engaging' (opinion leaders, formally appointed internal implementation leaders, champions and external change agents), 'executing', and 'reflecting and evaluating'. It is important to note that themes relating to the domain of 'process' were reported by study participants who were not necessarily formally involved in the planning, execution, or evaluation of P/PM 150 in government. The results therefore provide a perception of the process of implementation from stakeholders receiving the policy intervention to implement in their schools. Some participants, however, did report some involvement with the Ministry during the policy implementation process. It is therefore important that future research includes stakeholders who were formally involved in the policy development and implementation process at the system level (government) so as to confirm whether implementation was achieved as planned.

### **8.6.1 Planning**

This construct describes “the degree to which a scheme or method of behavior and tasks for implementing an intervention are developed in advance, and the quality of those schemes or methods” (Damschroder et al., 2009; additional file 3, p. 2). In terms of planning for P/PM 150, a few participants discussed being brought in to sit on ‘healthy eating committees’ organized by the Ministry, or to assist in the creation of policy resources. Participants explained, however, that they were brought in after the policy was developed. This leads to the next construct of engagement, and will be discussed in more detail below. Additionally, those participants involved in creation of policy resources described it as ‘a rush’. It is not surprising that one of the recommendations to the Ministry was that they slow down the process and engage stakeholders throughout the policy development and implementation phases. While studies relating to nutrition policy implementation did not discuss the importance of planning interventions well in advance of implementation, there is a wealth of research promoting the engagement of stakeholders throughout the entire policy process (particularly in the planning stages); this will be described in this next construct.

### **8.6.2 Engaging**

According to Damschroder et al. (2009) and Greenhalgh et al. (2004) engaging stakeholders throughout all stages of the policy implementation process is critical for implementation success. Previous research has highlighted the importance of involving students (Wojckicki et al., 2006; MacLellan et al., 2010; Veugelers et al., 2010; Pan Canadian Joint Consortium, 2010; Vine & Elliott., 2013; Vine & Elliott, 2014), parents (Downs et al., 2012; MacLellan et al., 2010; Veugelers et al., 2010; Pan Canadian Joint

Consortium, 2010; Vine & Elliott, 2013; Quintanilha et al., 2013), school stakeholders (principals, teachers) (MacLellan et al., 2009; Veugelers et al., 2010); , and food service providers (Pan Canadian Joint Consortium, 2010; Moore et al., 2010; Vine & Elliott, 2014) in all policy implementation processes. One major criticism of the implementation of Ontario's school food policy was the lack of involvement of key stakeholders early in the development and implementation process. Many stakeholders reported only finding out about the policy just before it was being mandated. Also, as mentioned above, those who attended 'healthy committee meetings' before implementation, explained that the policy had already been created, limiting their potential feedback. It is therefore recommended that stakeholders are consulted earlier on during the process of school policy development, not only during implementation phases.

The CFIR distinguishes between different types of stakeholders that are important to engage, including: opinion leaders, formally appointed internal implementation leaders, champions, and external change agents. Opinion leaders refer to individuals within an organization that have influence on other individuals' beliefs and attitudes within that organization. In this study, principals and school staff that were highly involved in health promotion and activities would be considered 'opinion leaders'. While they might not have recognized themselves as opinion leaders, their support for policy implementation was reported by others, signifying the importance of their buy-in to P/PM 150.

Implementation research suggests the need for formally appointed implementation leaders within the school to support implementation. While principals and school staff were identified as opinion leaders, it was often a nutrition-committed principal and school staff

member that attended P/PM 150 training sessions and were therefore considered the ‘policy experts’ within the school. While they might not have been formally appointed by the Ministry of Education, stakeholders within the school recognized them as the expert on P/PM 150 (i.e., a person within the school who they could ask about compliant fundraising ideas, and P/PM 150-compliant school events). Other studies related to school policy implementation did not distinguish between or identify roles of ‘opinion leaders’ and ‘internal implementation leaders’, however, they did identify the need for a health champion within the school to spearhead policy implementation (Bergman et al., 2010; MacLellan et al., 2009; Pan Canadian Joint Consortium, 2010; Quintanilha et al., 2013; Downs et al., 2012; Olstaad et al., 2011; Durlak et al., 2013).

Participants in this study who were identified as school champions were those that went above and beyond to promote P/PM 150, and organized activities to assist in the implementation of the policy (i.e. grant applications for cafeteria enhancement, or new kitchen facilities). In other school policy research, school champions were identified as those that showed resiliency against common implementation barriers, modelled effective leadership despite others’ resistance to policy changes, and supported positive changes to school food for the purpose of benefiting student health (Bergman et al., 2010; MacLellan et al., 2009; Pan Canadian Joint Consortium, 2010; Quintanilha et al., 2013; Downs et al., 2012; Olstaad et al., 2011; Durlak et al., 2013). It is clear that school champions have a critical role in terms of school policy implementation. As such, it is important to identify champions and engage them early in the policy process to ensure buy-in for implementation and ultimately,

support sustainability within individual schools. There may be merit in the Ministry training champions or even hiring specific individuals within the school to take on this role.

Finally, the CFIR recognized the importance of engaging external change agents during the implementation process. In this study, Peel Public Health played a significant role in supporting schools for P/PM 150 implementation. From hiring P/PM 150 consultants/coordinators to support schools, to running nutrition-related events for schools (i.e. Peel Student Food Expo & Cafeteria Revolution events), Peel Public Health and their representatives (specifically, public health nurses) were highly involved in P/PM 150 implementation in Peel Region schools. While the effectiveness of their support was unknown, literature suggests that involvement of external change agents (such as health units, health professionals, public health practitioners, dietitians/nutritionists, school nurses) can help to support successful implementation (Pan Canadian Joint Consortium for School Health, 2010). Other key players in terms of school nutrition policy implementation are food industry representatives. Again, engaging these external agents earlier on in the process could have kick-started the development of compliant products, thereby alleviating school stakeholder/food service provider stresses (and reducing ‘complexity’) associated with nutrition policy implementation.

It is clear that engagement of key stakeholders can be a significant factor influencing the success of policy implementation. Involving them (whether as formally or informally appointed leaders) throughout the implementation process is critical to ensure sustainability.

### **8.6.3 Executing**

This construct describes the organization's ability to implement the intervention according to plan (Damschroder et al., 2009; Greenhalgh et al., 2004). As noted earlier, Ministry representatives were not interviewed, therefore, it is challenging to determine whether P/PM 150 was implemented as planned. Despite this, stakeholders identified a number of strategies that the Ministry might have undertaken to support implementation, including, better marketing and communications related to the policy and the provision of more resources and supports for schools to facilitate its implementation. While participants identified lack of support for policy implementation, most could not specify the type of support they needed or warranted. Technical support was identified as a facilitator for implementation in Greenhalgh and associate's (2004) Diffusion of Innovations model. This type of support could be a beneficial resource for school stakeholders such as webinars led by Ministry staff to build support networks for implementation. Looking for help for technical support beyond the Ministry of Education who developed the policy may also be valuable.

### **8.6.4 Reflecting & Evaluating**

The final construct in Damschroder's framework describes the need for reflection and evaluation of the progress and impacts of the intervention. A common recommendation from participants in this study was for the Ministry of Education to evaluate the effectiveness of the policy. Many described a lack of Ministry involvement after the policy was mandated, including lack of resources and supports, lack of funding, and lack of monitoring for policy compliance, all of which have been discussed in previous constructs. Other studies on policy

implementation suggest the need for evaluation (Adamson et al. 2013; Lock et al., 2009). Lock (2009) discussed the challenges of evaluating the long term impacts of policies and explained that short term follow up might not provide the answers stakeholders are looking for in terms of policy effectiveness. Nevertheless, participants felt that the Ministry should have engaged with schools to better understand the stakeholders' experiences with implementing P/PM 150.

## **8.7 Discussion of P/PM 150 Outcomes & Impacts**

Examining implementation is critical in any health intervention, be it a program or a policy, and should be explored before any large scale implementation; however, understanding the implementation is only half of the puzzle. Examining the outcomes and impacts of an intervention are also vital in order to know if the intervention is worth pursuing in the first place. The CFIR assesses intervention characteristics, contextual factors (inner and outer setting), individual characteristics, and implementation processes to better understand why an intervention may or may not work. It does not, however, address outcomes and impacts resulting from the intervention. Participants in this study reported both positive and negative outcomes and impacts of P/PM 150; however, it is important to note that these findings are based on stakeholder perceptions which might not reflect actual outcomes or impacts of P/PM 150. Moreover, this data collection took place in 2012-2014 which is relatively early in the process and so outcomes may be short-term only.

Perceived positive outcomes of P/PM 150 emerged from the focus groups and interviews. They included improvements in school food quality, student's awareness that they like healthy foods and positive changes to students' food behaviours. On the other hand,

perceived negative outcomes and impacts included negative outcomes on: school food quality (poor taste, less variety, higher prices, and smaller portions); cases of student rebellion and protest; increased competition with outside food vendors; and finally overall negative impacts on students' food behaviours (students' leaving school to buy unhealthy options, or bringing in unhealthy options from home) leading to revenue loss for schools and food service providers. These findings are similar to other research assessing impacts of school food policy. Impacts discussed below include i) food availability, ii) student behaviour, and iii) revenues.

While research has shown that the introduction of school nutrition policies has generally had positive impacts on the availability of healthy food options in schools (McKenna 2010), a number of studies have indicated that unhealthy, non-compliant food and drink options are still served which is of concern (Taylor et al., 2011; Morin et al., 2012; Lock et al., 2009; Rideout et al., 2007). This finding is consistent with participants in this study who reported expecting bigger and better changes to P/PM 150 school food (i.e. less fruits and vegetables being offered than expected), as well as disappointment in some the food/drink options that were considered compliant and were still being offered. It is not surprising that there are mixed impacts on food availability given the myriad of school food options, differing food service providers that cater to each school, and a number of competing influences that dictate what foods are served (i.e. students' needs, convenience, price, number of staff, available facilities, etc.) and likely variation in monitoring implementation.

Most research evaluating school nutrition policies has demonstrated positive outcomes on student food behaviours where students have shown to increase their intakes of healthier food options, while decreasing intakes of processed, nutrient-poor foods as a result of increased availability of healthy options (McKenna, 2010; Vereecken et al., 2005; Jaime Lock, 2009; Adamson et al., 2013; Coleman et al., 2012; Downs et al., 2012; Masse et al., 2013; Mullaly et al., 2010). However, a number of studies have reported mixed results where other factors act as barriers to positive behavioural outcomes. Factors include availability of unhealthy foods outside of school (home and community) (Fung et al., 2013; Fox et al., 2005), pricing and affordability of policy compliant foods (Taylor et al., 2011; Vine & Elliott, 2014) and resistance to change (students simply disliking the new school food) (Taylor et al., 2011; MacLellan et al., 2010; Petticrew et al., 2003; McKenna, 2003; Antwi & Kale, 2014; Kotter & Schlesinger, 2008). These factors were all identified as significant barriers to policy implementation in this study, thereby limiting positive outcomes on student food behaviours. Additionally, unintended behavioural consequences were reported in this study as well as others, where changes to school food led students to either bring in unhealthy options, or leave school to buy (usually unhealthy) food elsewhere (Cullen et al., 2006; Fung et al., 2013; Fox et al., 2005; Vine et al., 2014). Again, this thesis highlights many factors influencing students' food behaviours, such as age, socio-economic status, parent/peer influence, media, and weather; therefore, we would not expect to see consistent results in relation to student behaviour since these behaviours are influenced by much more than a school food policy.

Lastly, negative outcomes on students' food sources have been linked to revenue loss for schools which is considered a significant barrier and negative impact of school food policy implementation in this study as well as others (Wharton 2008; Vine & Elliott, 2013; Masse et al., 2013; Taylor et al., 2011; Vine & Elliott, 2014; Lysyk, 2013). Results from the Ontario Auditor General's Report suggest that cafeteria sales decreased between 25 and 45 percent, while vending machine sales dropped between 70 to 85 percent after implementation of the policy (Lysyk, 2013). Peel Region study findings have suggested that some strategies (marketing, promotions, cafeteria enhancement) have been useful in bringing back cafeteria sales which might help other schools reverse these negative impacts. This relates back to the proposed construct of a schools' adaptability to the intervention. It is important that schools receive resources and supports from other partners, such as public health, the Ministry of Education, and/or school boards, to assist them in adapting over the early process of implementation so that revenue losses can be avoided.

Findings suggest that while positive outcomes and impacts of school nutrition policies are possible, a number of barriers exist that can lead to negative impacts. Until those barriers are addressed, positive outcomes and impacts resulting from school food policies might be limited.

## **8.8 Study Strengths & Limitations**

While there are a number of methodological limitations associated with this study, there are also many strengths. First, focus groups and interviews were conducted with multiple relevant stakeholder groups (students, parents, school stakeholders, and food service providers), providing varying perspectives on P/PM 150 and its implementation within the

Region of Peel. Secondly, the study sample was representative of the diversity of the large, Region of Peel. Interviews and focus groups were conducted with stakeholders from urban areas (Mississauga, Brampton) as well as rural areas (Caledon). Additionally, this study provided perspectives from both elementary and secondary school stakeholders, allowing for general comparisons between school levels to be made. Also, results from open-ended survey questions with over 1,500 student responses were incorporated into focus group and interview results, thus contributing to a more representative sample. Quantitative results from open ended questions confirmed the qualitative findings, thus triangulating the data and increasing the rigour of the results. In addition, the qualitative nature of the study allowed for more in depth exploration and rich description of stakeholders' thoughts, experiences and the processes of P/PM 150 implementation which would not have been achieved through quantitative methods. Another strength of the study was the involvement of Peel Public Health. The advisory team provided support throughout the data collection process, and valuable insight over the course of the project. Their involvement supported engagement of schools and knowledge translation and exchange by ensuring that the research was relevant to key stakeholders (Peel Public Health, school boards, and individual schools) and enforced through Public Health practice.

In terms of study limitations, interviews were not conducted with Ministry of Education representatives or other expert stakeholders who were involved in policy development and/or implementation; this is a key area for future research. In addition, challenges were encountered trying to recruit secondary school parents for focus groups, 46 parents from two schools did complete a short survey; however, data from this stakeholder

group were limited. Also, it is likely that stakeholders who participated in the focus groups and interviews were students, parents, teachers, principals that care about nutrition and healthy eating, and/or were generally more involved in school-related activities and have a vested interest. As such, results may not be representative of all stakeholder views in Peel Region (Neale, 2009). Non-English speaking parents would also have been missed. Given the ethnic diversity of the Region, and the high percentage of immigrants, this is another potential limitation. Timing was another challenge for data collection in this study. Because focus groups and interviews usually took place during one class period or less, focus groups and interviews often had to be cut short. Therefore, for some focus groups and interviews, questions had to be prioritized, meaning that not all questions were asked of all participants which left some gaps in the data. Another timing issue was that the data were collected over a long time frame (April 2012 to December 2014). The results therefore do not report on implementation at one point in time; implementation was at different stages as a result. Despite this, the data were collected within the first year and a half to two years of the release of the policy and results from other facets of the evaluation suggests that transition was still in process

Another limitation of this thesis was that the framework used to frame the discussion of all study results, was not used *a-priori*; this meant that focus group and interview questions were not developed based on the domains and constructs in the CFIR. For example, limited results were found under the ‘individual characteristics’ domain because participants were not asked specific questions about that construct. We chose to gather participant input without imposing a lot of structure. In the end, this contributed to confirming the validity of

the CFIR; most of the constructs were touched upon by participants without prompting, meaning that the constructs in the framework were relevant to the experiences of implementation of P/PM 150 in the Region of Peel and are confirmatory.

## **Chapter 9**

### **CONCLUSION**

The Ontario School Food and Beverage Policy (P/PM 150) was mandated as of September 2011 for all elementary and secondary schools in Ontario. Research has shown that the context of the ‘real world’ setting in which a policy is being implemented can play a significant role in either the success or failure of an intervention’s implementation process and expected outcomes and impacts (Peters et al., 2013; Bronfenbrenner, 1994). This thesis explored the perceptions of P/PM 150 implementation from a variety of stakeholders within the large, diverse Ontario Region of Peel, to better understand how implementation happens at the school and food service company level. Results from focus groups, interviews, and surveys not only provided insight into the process of P/PM 150 implementation, but also highlighted the influences of contextual factors, including individual, social and environmental factors, that played a role in promoting or hindering successful implementation.

While participants discussed many challenges and negative outcomes and impacts resulting from P/PM 150, successes leading to positive outcomes were also reported. Results of this thesis corroborated many of the findings in other school food policy evaluation research and contributed to current knowledge on implementation research. The Consolidated Framework for Implementation Research provided a useful framework to compare results to better understand *why* implementation worked (or did not work) within Peel Region schools. Two new constructs came out of this research including ‘adaptability of

the inner setting' as well as 'implementation climate outside of the organization/school'.

These additional constructs might be useful considerations to guide future implementation evaluations of nutrition policy.

In summary, successful implementation of P/PM 150 in Peel Region schools is possible; however, careful consideration needs to be given to individual factors (student age, taste preferences, cultural needs, SES/affordability), social factors (parental/peer/teacher influence, media) and environmental factors (home and community food environments) that may affect successful implementation. To facilitate school nutrition policy implementation, schools and food service need to be provided with adequate resources, tools and support that are tailored to individual schools/company needs, a rigorous monitoring plan needs to be put in place, and all relevant stakeholders who are going to be affected by the policy need to be involved at all stages of the policy development and implementation process. Without the involvement of those individuals, the context of the implementation setting is lost and the success of the policy will be limited. To conclude, below is one final quote from a secondary school stakeholder illustrating the importance of understanding context to support policy implementation.

They need people who actually can go to different schools and check out physically what is going on...because they have to be realistic. When they put these policies in place... first of all, they have to back it with funding...but they also have to be realistic in the sense that students can afford it...you know? What are some of the drawbacks that are happening in different schools? People like us know exactly what is happening and you know, they are sitting at a table and putting all these policies into practice, not realizing what is actually happening in different schools [...] they have to get into the classroom and get into different schools and find out exactly what is happening. That is really, really important before they put all these policies into practice.

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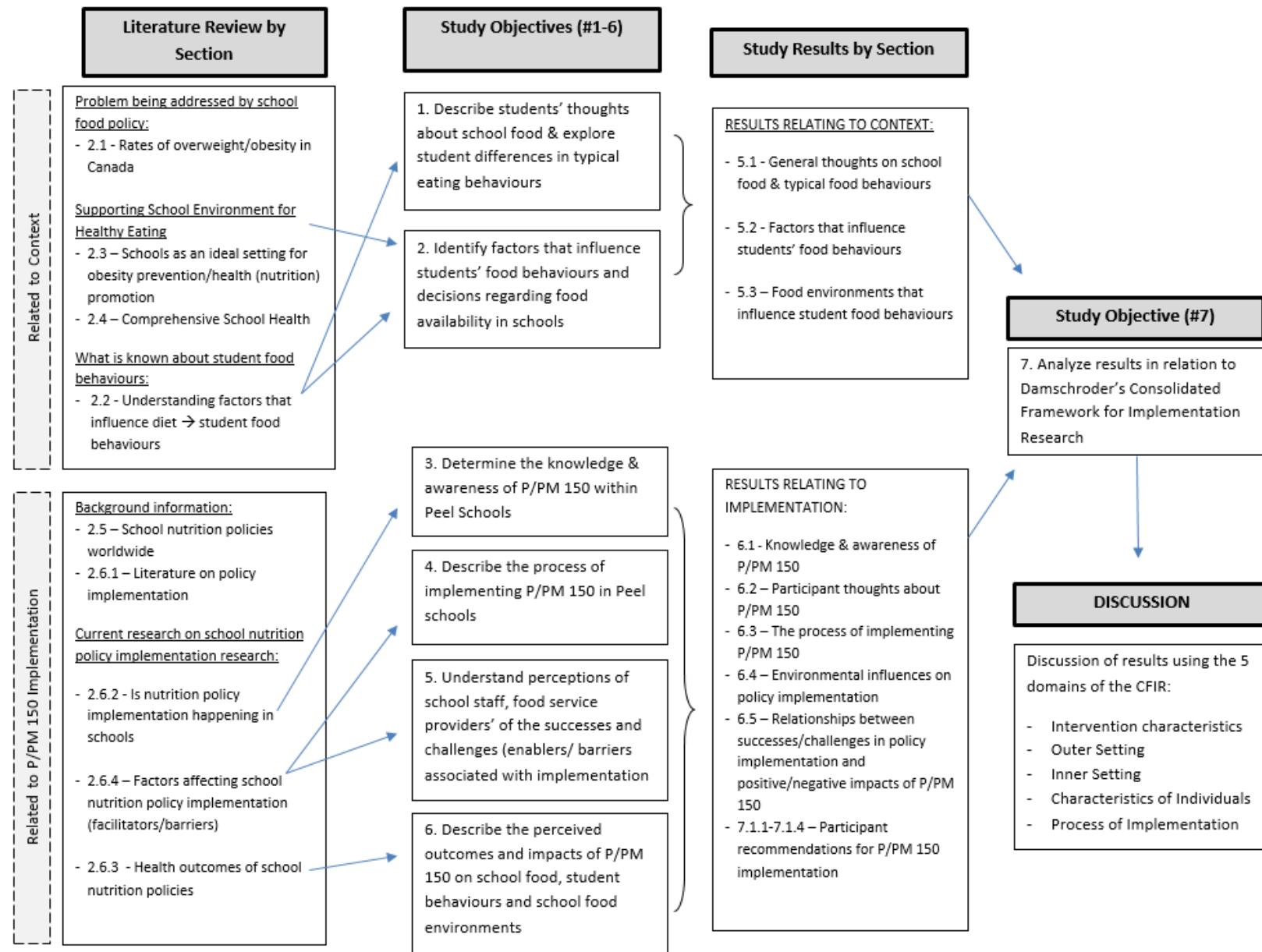
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## Appendix A

### Thesis Outline: How the Literature Review, Results, and Discussion Fit with Study Objectives



Note: Numbers in the figure refer to thesis chapter subsections

## **Appendix B**

### **Student Focus Group Questions**

1. What type of foods can you buy or get for free at school?
2. What are your favourite things to buy or get for free for breakfast/lunch/snack at school?
3. What do you think about the food that is offered at the school?
  - a. Do you like what is available? Is there anything you do not like? What would you like to see more of?
4. What kind of changes have there been in the foods offered for sale at school that you can think of over the past year?
5. Do you or your friends ever:
  - a. Eat away from school?
    - i. If yes – describe where do you usually go to buy food?
    - ii. Why do you leave school to have your lunch / snack? Explain where you go and why?
  - b. Do you or your friends usually bring food to school?
    - i. If yes – what kind of food do you normally bring?
    - ii. Who prepares your snacks/lunches that you bring to school? Your parents? Yourself?
    - iii. If you prepare your lunch, what helps you decide what foods you or your parents will buy or bring to school?
  - c. Do you attend student nutrition programs? – Does your school even have a nutrition program
    - i. If yes – what program do you (OR does your child) attend? (breakfast, snack, lunch?)

The Ministry of Education developed a new School Food and Beverage Policy that will (or already has) affected what foods you are able to buy at school. The goal of this new policy is to create healthier schools by only allowing healthy foods to be sold on school premises.

6. Have you heard about this new policy?
  - a. If yes, how did you hear about it (Teachers, principal, other) and what do you know about it?

*If NO-- a more detailed description of the policy will be provided to the students.*

7. Have you seen any changes in your school's food that may have happened because of this policy?
  - a. If yes, what are the changes?
8. What do you think about this policy?
  - a. What do you like about it?
    - i. Why do you like it?

- b. Is there anything you don't like about this policy?
  - i. Why don't you like it?
- 9. Does anything surprise you about this policy?
- 10. What do you think will be the biggest challenge with this change in your school for you?
- 11. How do you think this policy will (or already has) influence(d)/ change(d):
  - a. Where you eat? (at school, outside of the school) Why?
  - b. What you eat? (the types of foods you bring) Why?

*Prompts: would you be (are you now) more or less likely to eat at school than you used to? Why?*

*Would you be (are you) more likely to bring in your own food?*

*Do you think you would be (or are) more likely to eat away from school?*
- 12. Have you seen any changes in price in the food that's sold at school?
  - a. If yes, how has it changed?
- 13. How do you feel about paying a bit more for healthier foods sold at the school? Would you be willing to pay more for healthier food options?
- 14. Have you noticed any changes in the look of your cafeteria, lunch room or eating area since September of this year (e.g., make-over, posters, promotions, events, advertising)?
  - a. What has changed?
  - b. Are these areas generally more inviting or less inviting for eating lunch, snacks and socializing?
- 15. Have you seen anything to promote the recent healthy eating policy (School Food & Beverage Policy) at your school (e.g., video, posters, classroom activities)?
- 16. Do you feel involved with the changes, in terms of the food & beverages available for sale, at your school?
- 17. If you had any feedback or advice to the Ministry of Education who developed this policy, what would it be?

## **Appendix C**

### **Parent Focus Group Questions**

1. What type of foods can your son/daughter buy or get for free at school?
2. What are your son/daughter's favourite things to buy or get for free for breakfast/lunch/snack at school?
3. What do you think about the food that is offered at the school?
  - a. Do you like what is available? Is there anything you do not like? What would you like to see more of?
4. What kind of changes have there been in the foods offered for sale at school that you can think of over the past year?
5. Does your son/daughter or his/her friends ever:
  - a. Eat away from school?
    - i. If yes – describe where they usually go to buy food?
    - ii. Why do they leave school to have your lunch / snack? Explain where they go and why?
  - b. Does your son/daughter or their friends usually bring food to school?
    - i. If yes – what kind of food do they normally bring?
    - ii. Who prepares their snacks/lunches that they bring to school?
    - iii. What helps you or your son/daughter decide what foods you will buy to bring to school?
  - c. Does your son/daughter attend any student nutrition programs?
    - i. If yes – what program do they attend? (breakfast, snack, lunch?)

The Ministry of Education has developed a new School Food and Beverage Policy that will affect what foods you are able to buy at school. The goal of this new policy is to create healthier schools by only allowing healthy foods to be sold on school premises.

6. Have you heard about this new policy?
  - a. If yes, how did you hear about it? (PROBES: Teachers, principal, public health) *and* What do you know about it?
  - b. *If NO-- a more detailed description of the policy will be provided to the parents.*
7. Have you seen or heard about any food (or food-related) changes in your son/daughter's school that may reflect this new policy?
  - a. If yes, what are the changes?
8. What do you think about this policy?
  - a. What do you like about it?
    - i. Why do you like it?
  - b. Is there anything you don't like about this policy?
    - i. Why don't you like it?
9. Does anything surprise you about this policy?

10. What do you think will be the biggest challenge with this change in your son/daughter's school?

*If they have heard about the policy....*

11. Do you think that this new policy has influenced or changed:

- a. Where your son/daughter eats? (at school, outside of the school) – Why?
- b. What your son/daughter eats? (the types of foods brought to school) – Why?

**Prompts:** Do you think your son/daughter is more or less likely to eat at school after the policy change? Why?

Are they more likely to bring in their own food? Are they more likely to eat away from school?

*If they haven't heard about the policy....*

12. If the food available at school changes to meet the new policy guidelines, how do you think it will influence/ change:

- a. Where your son/daughter eats? (at school, outside of the school) - Why?
- b. What your son/daughter eats? (the types of foods brought to school) - Why?

Prompts: Do you think your son/daughter will be more or less likely to eat at school after the policy change? Why?

Would they be more likely to bring in their own food?

Do you think they would be more likely to eat away from school?

13. How do you feel about having your son/daughter pay a bit more for healthier foods sold at the school? If the school started to provide healthier foods, would you be willing to pay more for them?

14. If you had any feedback or advice to the Ministry of Education who developed this policy, what would it be?

## **Appendix D**

### **School Stakeholder Interview Guide**

#### **Introduction:**

In January of 2011, the Ministry of Education developed a School Food and Beverage Policy (P/PM 150) with hopes of full implementation as of September 2011. The policy describes standards for foods sold in elementary, middle and secondary schools in Ontario (including cafeterias, vending machines, tuck shops, & school nutrition programs). School boards will need to ensure that all food and beverages sold at the school meet the standards. The purpose of this interview is therefore to try and better understand how this policy can potentially affect your school food environment.

#### **Questions:**

1. Can you briefly describe the food services your school (OR the school you work with) offers?
2. Do you (OR the school you work with) currently have a school food policy or set of standards that you (OR they) follow?

IF YES ---

- a. Who set the policy or standards?
  - b. Who is involved in supporting /implementing the school food policy at your school (OR the school you work with)? \*PROBES: *School public health nurse, SFBP coordinator (PDSB), SFBP Consultant (DPCDSB)*
  - c. What food services does this policy affect at your school? (ie. vending machines? Cafeterias? Nutrition programs?)
3. What changes (if any) has your school (OR the school you work with) experienced in the past year in terms of foods provided by the school, or changes to food services?
    - a. To your knowledge, are these changes related to the new Ministry policy?

#### **Questions Regarding P/PM 150:**

4. What have you heard, if anything, about the new School Food and Beverage Policy standards released by the Ministry of Education this year?
  - a. If yes, how did u hear about it? PROBES: teachers, principal, public health, other?

*If the respondent knows about the policy go to Q. 5. If they did not know about the policy, skip to Q.7*

5. What do you understand are the main messages in it?
6. What were your initial thoughts about the policy?
  - a. Have these thoughts changed at all? If yes, why? And How? \*Now skip to Q. 8
7. What are your initial thoughts about the policy?

8. What do you see as the most positive aspects of the policy?
9. What for you has been (OR you anticipate will be) the biggest challenge in adapting to the School Food and Beverage Policy?
  - a. Probes: Customer preferences, cost, p <sup>274</sup> easibility (for food service providers, cafeteria cooks)?
10. How do you think the staff and students (will) feel about the changes that emerge(d) from the implementation of the policy?
  - a. Probes: What do you think they will be pleased about? What concerns, if any, do you think they will have?
11. What food services or programs does your school (OR the school you work with) offer that have been/will be affected by this policy?
  - a. Probes: cafeterias, vending machines, tuck shops, etc.
12. Does your school offer a student nutrition program, such as a breakfast, snack or lunch program?
  - a. If YES – Do students pay for the program?
  - b. If YES – What, if anything, would you like to see changed regarding this program?
  - c. How do you see the implementation of the new policy affecting your current program?
13. Have you or the school that you work with received any resources or supports to help implement the policy?

*PROBE: Public Health support? School public health nurse support? SFBP Coordinator (PDSB), SFBP Consultant (DPCDSB support,) Menu development? Dietitian support?*

  - a. **If YES** --What resources or supports have been offered and how have they been helpful?

*PROBE: websites, online resources?*
  - b. **If NO** – What resources or support would be most helpful to you (OR the school) in making the necessary changes?

*PROBES: ie. Menu development? Dietitian support? Public health support? Public Health Nurse or School Health Nurse support, SFBP Coordinator (PDSB), SFBP Consultant (DPCDSB support, websites, online resources?)*
14. Have you (or the school that you work with) received support with implementation of the policy from your Public Health Nurse and/or SFBP coordinator or consultant?
  - a. If yes, how have they supported you?
  - b. If no, would you like to receive more support? And what type of support would you like?
15. If you had any advice to the Ministry of Education who created this policy, what would it be?

## **Appendix E**

### **Food Service Provider Interview Guide**

*Thank you for agreeing to participate in this interview. As mentioned in the invitation email, I would like to tape-record the interview with your permission. Myself and the transcriptionist would be the only ones with access to the recording. I will be using the recording to come up with common themes from all my interviews. Also, with your permission, I would like to use relevant quotes coming from the interviews. I would never include any identifying information, I would simply state: 'a food service provider in the Region stated: \_\_\_\_'.*

If the food service provider agrees to the above, I will begin the interview.

#### **Organization Background**

1. Can you tell me a bit about your food service organization?
  - a. How many schools do you cater to in Peel Region?
  - b. Cafeterias? Vending Machines? Special lunch/snack days? Catering for staff events? Tuck shop/ canteen? Catering for parent council events? External catering in the community?
  - c. How many elementary? Middle? Secondary?
  - d. How many days a week do you provide your service in schools?
  - e. How many students/staff do you cater to on average? Per day? Or per week?
  - f. How long has your food service organization been providing food to schools in the Region?
2. Have you had inside or outside competition within the schools you work with?
  - a. Within school?
  - b. Outside vendors?

#### **P/PM 150 and Impact**

3. How familiar are you with the Ontario School Food and Beverage Policy (P/PM 150) and its policy guidelines?
  - a. *If not familiar, an explanation will be provided\**
4. Prior to P/PM 150, did you have any healthy food policies or guidelines in place?
5. Can you tell me about your experience implementing P/PM 150?
6. What do you think of the policy?
7. Did your organization have to make changes to meet the new guidelines?

8. What successes have you had in implementing the policy?
  - a. Variety – choice in food and beverage options?
  - b. Sales/Profits?
  - c. Cafeteria enhancement – changes in the cafeteria environment?
  - d. Competition?
9. What challenges have you had in implementing the policy?
  - a. Variety – choice in food and beverage options?
  - b. Sales/Profits?
  - c. Cafeteria enhancement – changes in the cafeteria environment?
  - d. Competition?
10. (If challenges are mentioned above:) How have you or your organization tried to resolve these challenges?
11. Tell me a bit about the type of equipment you have. Is it sufficient? Have there been any significant changes in the type of equipment you use since P/PM 150?
12. Have your prices increased/decreased since the implementation of the policy (in general, or certain products)?
13. What are your best and least selling items? Have these changed since the introduction of P/PM 150?
14. Even though P/PM 150 says what can be offered in the Sell Most and Sell Less categories, what foods do you actually sell most?
15. Have your sales/profits been affected by this new policy?
16. Do you notice any differences in sales across the school year? (e.g., in winter students may be less willing to leave campus)
17. Do you receive any input/feedback from principals, teachers, parents, etc.?

#### **Strategies and Collaboration**

18. Does your staff go through any kind of training? If yes, what is involved in the training?
19. Have you used a pre-paid lunch plan?

- a. If yes, tell me about your experience using it.
20. Do you offer price subsidies for healthier food/drink options?
21. Have you done anything to try and boost sales? (e.g. Value menus, combo days)
22. Have you established any new initiatives/plans to try to keep students on campus to eat?
- b. If so, have there been any barriers in implementing these plans?
  - c. If so, have there been any successes in implementing these plans?
23. What do you do (would you like to do) to make the food/ food environment appealing to students?
24. Have you ever partnered with schools regarding the 10 free Special-Event days? (OR are you taking a collaborative approach with the school and/or school council?)
25. Do you ever connect/collaborate with other food service providers?
- d. Is there opportunity to work collaboratively with other providers?

#### **Resources/Supports**

26. Have you had any resources/supports to assist you in implementing this policy?
- e. Who/what has been helpful?
27. Are there any resources/supports that would have been helpful that you did not receive? Or any resources that might be helpful to you now?
28. Are there ways that Public Health can support you?
29. Did you participate in Peel Public Health's Peel Student Food Expo in October 2013?
- f. If yes, what did you think about the event?
  - g. Have there been any positive/negative outcomes resulting from the Expo?
30. Do you provide any food and nutrition educational materials in your cafeterias (e.g., table tents, posters)?
31. Do you support any other initiatives? i.e. green initiatives, local foods etc.????
32. How do you ensure compliance with the policy?
33. Do you have any feedback for the Ministry of Education that created this new policy?

## Appendix F

### Secondary School Parent Survey

#### **Parent Survey: Ontario's School Food & Beverage Policy (P/PM 150)**

Thank you for taking the time to complete this survey. This study has received ethics clearance from the University of Waterloo & all Regional school board ethics committees. By completing this survey, you are consenting to participate in our study. Please drop this survey into our anonymous drop box.

**The P/PM 150 Policy:** In September 2011, the Ministry of Education put in place the Ontario School Food & Beverage Policy (P/PM 150). This policy affected all Ontario schools. The policy states that all food and drinks sold in schools must be healthy and follow the policy (promoting foods high in nutrients and low in fat, sugar, and salt). Foods high in fat, sugar or sodium or foods that are deep-fried or confectionary foods (chips, chocolate, candy) are no longer permitted for sale.

1. I am a parent/guardian of a grade \_\_\_\_\_ student
2. Had you previously heard about the Ontario School Food & Beverage Policy (P/PM 150)?

Yes       No

3. If YES, where did you first hear about it?

**The P/PM 150 Policy: Food and drinks sold in schools must be healthy (high in nutrients & low in fat, sugar, and salt)**

4. What do you LIKE about the policy?
5. What do you DISLIKE about the policy?
6. If you had any feedback/advice to the Ministry of Education who developed this policy, what would it be?
7. Please describe your sons'/daughters' usual eating behaviour during school hours (e.g. do they usually buy food at the school cafeteria, outside of school, or bring in food from home?).
8. Do you think this policy has the potential to affect what and/or where your son/daughter eats? If yes, how? If not, why?

THANK YOU!

## **Appendix G**

### **School Contact Information Letter**

Dear Contact Person

Thank you for your time and assistance with this project!

The following study components are enclosed: student web-based survey consent letters (yellow copy), student focus group consent letters (purple copy), parent focus group consent letters (pink copy) and the Healthy School Planner (green copy).

The following study components are enclosed: student web-based survey consent letters (yellow copy), student focus group consent letters (purple copy), parent focus group consent letters (pink copy) and the Healthy School Planner (green copy).

Please ensure that one yellow and purple letter are distributed to each student in participating classrooms (grades 6-8). Please ask students to return both consent letters signed on or prior to the web-based survey and focus group, which is scheduled for \_\_\_\_\_. The pink letters are for any parents who may be interested in participating in a focus group. You can distribute those letters whichever way you think would be best.

If the teachers in each classroom could collect the consents from students as they come in, we can pick them up when we arrive on \_\_\_\_\_. If you would like to collect the consent forms yourself, that would be fine as well.

Please complete the Healthy School Planner (green package) or forward it to a person in the school who is knowledgeable of the school food environment. The completed healthy school planner will be picked up by a UW representative on \_\_\_\_\_.

If you have any questions regarding any of the above, please contact Renata Valaitis ([rvalait@uwaterloo.ca](mailto:rvalait@uwaterloo.ca)) or Taryn Orava ([taryn.orava@gmail.com](mailto:taryn.orava@gmail.com))

Thank you! Sincerely,

Dr. Rhona Hanning (University of Waterloo) & Catherine Brown (Peel Public Health)

## **Appendix H**

### **Student Focus Group Consent Letter**

[Date]

Dear [Parent] of Student \_\_\_\_\_

Re. Focus Group \_\_\_\_\_ (date) (location)

We have invited your child to participate in a group discussion about the food that is available for sale at school. We are interested in learning what they see as strengths or concerns in relation to a new policy, the Ontario School Food and Beverage Policy, which defines what foods and beverages are healthy and may therefore be sold at school.

This group discussion is one of several amongst educators, parents and students within the Region of Peel.

Title of Project: Ontario School Food and Beverage Policy: Process and Impact Evaluation

Organizers: *Drs. Rhona Hanning and Steve Manske*, University of Waterloo, Department of Health Studies & Gerontology and Propel Institute for Population Health Impact (519) 884-4567 Ext. 35685.

This session will be facilitated by Renata Valaitis, a PhD candidate at the University of Waterloo.

Participation in this session is voluntary and involves input into a one hour discussion of the issues associated with foods sold at school. Sessions will take place over lunch hour, at school, and refreshments will be available. There are no known or anticipated risks to your child's participation in this session. The sessions will be audio recorded. He or she may decline answering any questions they feel that they do not wish to

answer. All information your child provides will be considered confidential and grouped with responses from other participants. No school staff will be present during the session and your child's name will not be identified with the input they give to this session. Further, they will not be identified by name in the report that the facilitator produces for this session. The notes and audiotapes collected from this session will be kept for a period of seven years in locked cabinets at the Propel Centre for Population Health Impact at University of Waterloo and any electronic information will be kept for 10 years in the same secure area.

Given the group format of this session we will ask your son or daughter to keep in confidence information that identifies or could potentially identify a participant and/or his/her comments. If you have any questions about your child's participation in this session, please feel free to discuss these with the facilitator, or later, by contacting Professor Rhona Hanning at 519-888-4567, ext. 35685. If you are interested in attending one of our parent focus group sessions or receiving a copy of the executive summary of the session outcomes, please contact Renata Valaitis ([rfvalait@uwaterloo.ca](mailto:rfvalait@uwaterloo.ca)).

We 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 and has received approval by the Peel District School Board External Research Screening Committee. However, the final decision about participation is yours and your child's.

Should you have comments or concerns resulting from 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](mailto:ssykes@uwaterloo.ca).

Thank you for your assistance with this project. Yours sincerely,

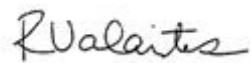


Rhona Hanning

Associate Professor of Nutrition

Propel Institute for Population Health Impact University of Waterloo  
519-888-4567 x35685

[rhanning@uwaterloo.ca](mailto:rhanning@uwaterloo.ca)



Renata Valaitis PhD Candidate

Department of Health Studies & Gerontology University of Waterloo  
[rfvalait@uwaterloo.ca](mailto:rfvalait@uwaterloo.ca)

## **Appendix I**

### **Parent Focus Group Consent Letter**

[Date]

Dear Parent(s)/Guardian(s),

Re: Parent Focus Group – date TBD

We would like to invite you to participate in a group discussion about food at school. We are interested in learning what you see as strengths or concerns in relation to the new Ontario School Food and Beverage Policy which defines what foods and beverages are healthy and may therefore be sold at school.

This group discussion is one of several amongst educators, parents and students within the Region of Peel.

Title of Project: Ontario School Food and Beverage Policy: Process and Impact Evaluation

Organizers: *Drs. Rhona Hanning and Steve Manske*, University of Waterloo, Department of Health Studies & Gerontology and Propel Institute for Population Health Impact (519) 884-4567 Ext. 35685

This session will be facilitated by Renata Valaitis, a PhD candidate at the University of Waterloo.

Participation in this session is voluntary and involves input into a one hour discussion of the issues associated with foods sold at school. There are no known or anticipated risks to your participation in this session. The session will be audio recorded. You may decline answering any questions you feel you do not wish to answer. All information you provide will be considered confidential and grouped with responses from other participants. No school staff will be present during the session and your name will not be identified with the input you give to this session. Further, you will not be identified by name in the report that the facilitator produces for this session. The notes and audiotapes collected from this session will be kept for a period of seven years in locked cabinets at the Propel Centre for Population Health Impact at University of Waterloo and any electronic information will be kept for 10 years in the same secure area.

Given the group format of this session we will ask you to keep in confidence information that identifies or could potentially identify a participant and/or his/her comments. If you have any questions about

participation in this session, please feel free to discuss these with the facilitator, or later, by contacting professor Rhona Hanning at 519-888-4567, Ext. 35685. If you are interested in receiving a copy of the executive summary of the session outcomes, please contact Renata Valaitis ([rfvalait@uwaterloo.ca](mailto:rfvalait@uwaterloo.ca)).

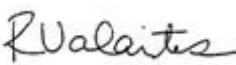
We would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo and has received approval by the Dufferin-Peel Catholic District School Board Research Committee. However, the final decision about participation is yours. Should you have comments or concerns resulting from 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](mailto:ssykes@uwaterloo.ca).

Thank you for your assistance with this project. Yours sincerely,



Rhona Hanning  
Associate Professor of Nutrition  
Propel Institute for Population Health Impact University of Waterloo  
519-888-4567 x35685

[rhanning@uwaterloo.ca](mailto:rhanning@uwaterloo.ca)



Renata Valaitis PhD Candidate  
Department of Health Studies & Gerontology University of Waterloo  
[rfvalait@uwaterloo.ca](mailto:rfvalait@uwaterloo.ca)

## Appendix J

### Email Invitation Letter for Food Service Providers

Dear Mr./Ms.\_\_\_\_\_,

My name is Renata Valaitis - I am a PhD student from the University of Waterloo. I am working with Peel Public Health on a large evaluation of the Ontario School Food and Beverage Policy (P/PM 150). My part of the research focuses on interviewing key stakeholders within Peel Region. At this point, I have completed focus groups with parents and students on their eating behaviours and thoughts about the policy, and have completed interviews with teachers/principals on the implementation of the policy in their schools. I am now interested in hearing the perspective of food service providers.

More specifically, I am interested in the perspective of food service providers on the implementation of this policy and your successes/challenges with it. I am hoping to get a complete picture of PPM 150 implementation and would love to hear your perspective. I am approaching all food service providers in the Peel Region to participate in an interview. Here are a few details about the interview:

- *The interview can be done over the phone, or in person – whichever you prefer*
- *I expect the interview to take anywhere between half an hour to an hour*
- *With your permission, I would like to tape record the interview - the tape recording would not be shared with anyone other than the transcriptionist.*
- *With your permission, I would like to include a few quotes from my interviews in my research - I would never identify your name/company or any identifying information. Quotes would be included in research in this manner: "A food service provider from the Region said...."*

Please let me know if you are interested in participating. If you have any questions, please let me know. I would really appreciate your help! My contact information is listed below.

Thank you for your time!

Sincerely,

Renata Valaitis rfvalait@uwaterloo.ca

519-504-2125

School of Public Health & Health Systems University

of Waterloo