LET'S TALK ABOUT 'FAT': CONCEPTUALIZATION OF OBESITY IN CANADA, THE ROLE OF SOCIAL DETERMINANTS OF HEALTH AND NEOLIBERAL PUBLIC POLICIES.

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Abstract

In the last twenty years, obesity has become a major concern in the public health and academic literatures. Most of this literature stems from a biomedical and behavioural/lifestyle perspective. However, parallel to this view emerged a different approach which questioned the validity of the obesity ‘epidemic’.

This Major Research Paper (MRP) focuses on how obesity is conceptualized in Canada by analyzing two governmental and one non-government report through use of qualitative content analysis. A critical analysis of these reports will use Labonte’s (1993), supplemented by Raphael, framework of biomedical, behavioural/lifestyle, socio-environmental and critical structural approaches. It explores whether social determinants of health play a role in these reports. And lastly, a political economy approach is used to explore how the Canadian political climate with its neoliberal public policy reforms formulates and influences strategies proposed to ‘treat’ obesity.

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AST – Active school transport

BMI – Body mass index

CCHS – Canadian Community Health Survey

CDC – Center for Disease Control and Prevention

CIHI – Canadian Institute for Health Information

IOTF – International Obesity Task Force

NHANES - National Health and Nutrition Examination Survey

PHC – Public Health Canada

SES – Socioeconomic status

WHO – World Health Organization

Chapter One: Introduction

a. Background

During the mid-nineties obesity became a major concern among medical professionals, scholars and the media alike (Oliver, 2005). The idea that obesity is an important predictor of numerous health issues became a prevalent discussion point for many public health agencies around the world (Gard, 2011). Since the classification of obesity as a chronic disease by the World Health Organization in 2000, health agencies in most developed countries produced strategies to reduce and prevent obesity and limit consequent health care costs associated with it. The majority of strategies for obesity prevention and treatment focus on behavioural/lifestyle changes. The simple equation of energy in and energy out has been used for decades by medical professionals and scholars alike to explain the 'obesity epidemic'. Little, if any attention has been paid to the concept of social determinants of health and how a political economy analysis can inform these issues.

Much of the literature focusing on obesity stems from a biomedical perspective that indicate negative health effects of being overweight. Some of the conditions and diseases said to be associated with obesity are cardiovascular disease, type II diabetes, arthritis, hypertension, and certain types of cancer (Public Health Agency of Canada & Canadian Institute for Health information, 2011), and psychosocial issues such as 'depression, disordered eating, social discrimination, and poor quality of life' (Bean, Stewart and Olbrisch, 2008, p.215). Obesity is not the sole cause of these ailments yet much of the biomedical literature uncritically links these health outcomes to the simple

measure of excessive body mass. Lupton (2013) refers to such research and writing as the 'anti-obesity' perspective. She suggests that the majority of medical and academic community see overweight and obesity as a 'major health risk for those who are designated as being overweight or obese' (Lupton, 2013, p.15).

The anti-obesity discourse became so prevalent in our society that 'numerous news stories made reference to the '"obesity epidemic", the "obesity crisis", and the "war on obesity"' (Lupton, 2013, p.16) mirroring the use of terms provided by medical professionals, and public health experts. Politicians around the world started using the same rhetoric to draw attention to the 'obesity epidemic' and began to call for an immediate need for action (Gard, 2011). Literature discussing the cost of obesity intensified the issue and the dire need for action. Consequently numerous health agencies developed obesity reduction strategies to combat this newly created chronic disease.

To make my position clear, I argue that obesity is not a disease but is a highly medicalized term loaded with negative connotations which render the body unhealthy regardless of one's actual health status (Lupton, 2013). 'Obesity' has come to be defined in terms of the body mass index (BMI) which 'is a simple index of weight-for-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in meters (kg/m^2).' (WHO, BMI Classification, 2006). Table 1 provides a summary of BMI categories.

Table 1: The WHO International Classification of adult underweight, overweight and obesity according to BMI

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Classification	BMI(kg/m^2)	
	Principal cut-off points	Additional cut-off points
Underweight	**<18.50**	**<18.50**
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
Normal range	**18.50 - 24.99**	**18.50 - 22.99**
		23.00 - 24.99
Overweight	**≥25.00**	**≥25.00**
Pre-obese	25.00 - 29.99	25.00 - 27.49
		27.50 - 29.99
Obese	**≥30.00**	**≥30.00**
Obese class I	30.00 - 34.99	30.00 - 32.49
		32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49
		37.50 - 39.99
Obese class III	≥40.00	≥40.00

Source: Adapted from WHO, 1995, WHO, 2000 and WHO 2004.

Note: Adapter from 'WHO: BMI classification', by World Health Organization, 2015.

Numerous scholars oppose the use of BMI for obesity diagnosis and this will be discussed later in greater detail. For now I will borrow the words of Heshka and Allison (2001) who argue that: "…obesity defined solely on the basis of a BMI or percentage body fat in excess of some threshold a disease leads immediately to the following problems:

- the only sign or symptom may be the excess fat which is also the only defining feature of the condition; there are no other inevitable clinical or subclinical signs;
- many obese persons suffer no impairment as a consequence of their obesity;
- it ignores the probabilistic nature of the relation between obesity and consequent adverse events which is accurately conveyed by the term risk factor;

- it poses conceptual problems, i.e., is the obesity which is a sign of a disease, itself a disease? (Heshka and Allison, 2001, p.1403)

Similarly to Heshka and Allison (2001), David Katz (2013) argues that storing fat is a normal biological function and not a bodily malfunction, the usual definition of disease (Katz, 2013). Throughout my research I came to see obesity as a highly contested discourse, full of contradictions that permeate the medical, public health and academic literatures and professional discourses. Thus, the reason I argue that obesity is not a disease is due to the lack of consensus in literature on whether adiposity is actually unhealthy to the human body. I will use quotation marks around ‘obesity’ to refer to the medicalized use of the term. In other cases I will use less loaded words to refer to adiposity.

b. Scope

When I started my research on ‘obesity’, I was sure it was a significant problem. As I came across critical weight/fat studies I realized that my conception of ‘obesity’ was shaped by anti-obesity ideologies which position this ‘disease’ as a precursor to a wide range of other ailments. This notion is disputed by numerous researchers from different countries such as U.S, England and France who have shown that being overweight is actually a protective factor for many (Ernsberger, 2009). After controlling for socioeconomic status, major studies such as the San Francisco longshoremen study (Borhani et al., 1963), the People’s Gas study in Chicago (Dyer et al., 1975) and the Whitehall study in England (Jarrett et al., 1982) show that people from lower socioeconomic status groups classified as overweight or obese according to BMI actually

live longer than people in the normal BMI category. The lack of agreement in literature on the adverse effects of ‘obesity’ or overweight renders the arguments that ‘obesity’ is a problem uncertain. I believe the argument can be made that ‘obesity’ is an issue but only one of many issues (for example social determinants of health) that need to be addressed.

Another salient argument which dominates the field is that ‘obesity’ costs societies considerable amounts of money and is a drain on limited health care resources. Writers such as Oliver (2005) contradict this view and show that ‘obesity’ does not cost as much money as previously stated. Oliver (2005) states that most ‘obesity’ estimates include cost of diseases such as type II diabetes and cardiovascular disease. These diseases however have been linked to another very important predictor of health - low socioeconomic status (SES). The correlations between SES and poor health were shown by Raphael and colleagues (2012) for type II diabetes, and Margot and others (1991) for ischemic heart disease.

In order to better understand how ‘obesity’ is diagnosed, a scoping review was conducted to see how the BMI is used to determine ‘obesity’ rates, what issues exist with using this measure, and whether it is an appropriate diagnostic tool. The use of BMI has been questioned by a number of scholars such as Bagust and Walley (2000), Lupton (2013) and Stanley, Leonard and Hawthorne (1986). These anti-BMI scholars argue that BMI is not an appropriate way to accurately measure adiposity. Lupton (2013) argues that high BMI automatically marks the body as unhealthy, regardless of the actual health status. Guida and colleagues (2008) using more recent technologies such as bioelectrical

impedance vector analysis or BIVA show that there are much more accurate, easy, and inexpensive ways to measure the amount of fatty tissue.

Lupton (2013) suggests that the discriminatory culture around excess fat is creating a plethora of anti-fat discourses which can contribute to unhealthy behaviours that have far worse health consequences than a couple of extra pounds. Online communities such as pro-ana (anorexia), pro-mia (bulimia) and pro-ed (eating disorder) encourage unhealthy and health damaging behaviours such as starvation (Borzekowski et al., 2010) in order to achieve thinness.

All of these contradictions in academic literature raise the question of why is there such an excessive focus on ‘obesity’ in public health? Why are public health agencies not looking at more important factors such as social determinants of health? Is ‘obesity’ a myth that is overblown? If yes, than why?

c. Research significance

i. Social determinants of health

Discussing ‘obesity’ in relation to social determinants of health (SDH) is important because up to now most recommendations made by public health agencies focus on individual’s lifestyle or behavioural changes. However the lifestyle/behavioural approach does not account for larger forces that shape people’s health that are encompassed in the concept of social determinants of health. SDH refer to ‘societal factors that shape the health of individuals and populations’ (Bryant, Raphael, Schrecker, & Labonte, 2011, p. 45). SDH include factors such as income and income distribution, education, job security, housing, access to health services, gender, disability and ethnicity

among others (Mikkonen, and Raphael, 2010). SDH look at ‘specific mechanisms by which members of different socio-economic groups come to experience varying degrees of health and illness’ (Bryant, Raphael, & Rioux, 2010, p. 146). SDH approach does so by looking at ‘the organization and distribution of economic and social resources among the population’ (Bryant, Raphael, & Rioux, 2010, p. 146). Thus SDH approach is vital in the ‘obesity’ discourse, which up to now has been primarily viewed through lifestyle/behavioural model.

However, it must be noted that even the documents that address the importance of social determinants of health such as the *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health* (2008) written by the Commission on Social Determinants of Health of WHO, and state that ‘obesity is not caused by moral failure on the part of individuals’ (p. 35) still tend to reassure the reader that ‘obesity’ is caused by ‘“nutrition transition” – the increasing consumption of fats, sweeteners, energy-dense foods, and highly processed foods. This, together with marked reductions in energy expenditure, is believed to have contributed to the global obesity epidemic.’ (Commission on Social Determinants of Health, 2008, p. 62). Even in documents that focus on SDH, ‘obesity’ is shown to be strongly linked to the equation of energy in and energy out, and not larger social determinants of health, as discussed by Mikkonen and Raphael in *Social Determinants of Health: The Canadian Facts* (2010).

ii. Political economy

A political economy perspective directs our focus towards political, economic and social factors that affect people’s health (Bambra, Fox, and Scott-Samuel, 2005, p. 187).

Bambra and colleagues (2005) state that health is political because under the neoliberal economic system health is a commodity, and consequently more affluent social groups are able to enjoy it more than others (p.187). Bambra and others (2005) suggest that health is political because 'its social determinants are amenable to political interventions and are thereby dependent on political action (or more usually, inaction).' (p.187). Health is political because it has been deemed as a human right by United Nations in 1948 (Bambra, Fox, and Scott-Samuel, 2005, p. 187). Lastly health is political because 'power is exercised over it as part of a wider economic, social and political system' (Bambra, Fox, & Scott-Samuel, 2005, p. 187). Thus political economy explores how political ideology and power influence the distribution of economic and social resources in society (Armstrong, Armstrong, & Coburn, 2001). Furthermore Coburn (2004) suggests that public policy development is influenced by political and economic systems within a given country. In Canada, neoliberal reforms have influence on the health care system, and public health policies in discourses such as those around 'obesity'. Political economy is highly critical of neoliberal reforms and the role the 1% of wealthiest people and transnational corporations have on the economic system and society as a whole. Raising the question of: How does Canada's current political economy drive the 'obesity' discourse?

Harvey (2005) states that neoliberalism:

> Is in the first instance a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial

> freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade' (Harvey, 2005, p. 5).

From this perspective individuals make 'their own' choices of what to consume, how much and when. Similarly to Bambra and others (2005), Guthman (2009) suggests that the body has become a 'site through which capital circulates as labor power, but it is also a site through which capital circulates as commodities' (p.192). Guthman (2009) argues that in the current era of off-shoring production, only consumption is left to sustain. Thus the 'eat less' message which is contradictory to the capitalist growth, is resolved by 'consume more' message coming from the dieting industry. By 2004, forty-six billion dollars were spent on weight loss products annually in U.S. (Lyons, 2009, p.77).

The current state of neoliberal political ideology in Canada makes me wonder: what is the role of neoliberal ideologies in the 'obesity epidemic'? Are the current 'obesity' prevention strategies that focus on behavioural and lifestyle changes more in-line with neoliberal thinking?

iii. Income inequality

One of the salient factors discussed in the political economy approach is income inequality. Subramanian and Kawachi (2004) suggest three pathways through which income inequality is associated with health. The first is the *structural pathway*, for example income inequality can create residential segregation, based on ethnicity and socioeconomic status (Subramanian and Kawachi, 2004, p. 87). Through this pathway poverty is fostered and reinforced within specific communities. The second pathway is

social cohesion and collective social pathway which may ‘mediate the multilevel relation between state income inequality and health’ (Subramanian and Kawachi, 2004, p. 87). Thus the vast difference between rich and poor disturbs social cohesion, and undermines social capital. This can be seen in the erosion of community networks. Or the lack of shared values, understandings or trust between different social groups (Keeley, 2007). The last pathway suggested by Subramanian and Kawachi (2004) is the *policy pathway.* Here the authors argue that income inequality influences creation and implementation of social or public health policies (Subramanian and Kawachi, 2004, p. 87). In this pathway income inequality creates challenges in developing and sustaining effective health policies, due to monetary limitations. Using these pathways it can be argued that ‘obesity’ is caused by the lack of adequate social determinants of health such as sufficient housing, income distribution, disability status, ethnicity, or access to health care services.

Chapter Two: Literature review

a. Contradicting conceptualization of ‘obesity’

One of the most interesting aspects about ‘obesity’ is that there is no consensus in literature about ‘obesity’ estimates, costs associated with adiposity, or whether we are using the right tools to diagnose it.

i. ‘Obesity’ Estimates

According to the *Obesity in Canada* (Public Health Agency of Canada & Canadian Institute for Health Information, 2011) report, ‘obesity’ has doubled in all age groups in the last two decades, and one in four Canadians is considered obese (p. 1). A more recent report from the Fraser Institute also using data from Statistics Canada suggests that obesity rates have plateaued in recent years (Basham and Esmail, 2014, p.4). Basham and Esmail (2014) state that ‘obesity’ rates are not going up, and that there is no ‘epidemic’ per se. Similarly to the *Obesity in Canada* (Public Health Agency of Canada & Canadian Institute for Health Information, 2011) report, *Addressing Obesity in Youth and Children* (Public Health Ontario, 2013) states that one-third of Canadian children is considered overweight or obese using data from 2009 to 2011 (p. 9). However, similarly to adult ‘obesity’ rates, the Fraser Institute’s report shows that between the years of 2005 to 2012 in the age group between 12-17, ‘obesity’ rates are largely unchanged (Basham and Esmail, 2014, p.10). It is interesting to note that data from the same, reliable source of Statistics Canada is represented so differently by two reports. Public health report states that there is a growing problem, and the Fraser Institute shows that the rates have stabilized suggesting no epidemic at all.

‘Obesity’ estimates have posed a problem for some time, not only in Canada. In 1999 one of the first studies that attempted to calculate the number of deaths caused by adiposity concluded that:

> Using relative hazards associated with elevated BMI in six U.S. studies, the national distribution of adults BMI, and estimates of population size and total death from the same era, we estimated the annual number of deaths attributed to obesity to be about 280,000. (Allison et al., 1999, p.1535-1536)

Allison’s and colleagues (1999) study has been criticized for lack of methodological strength. It also must be noted that their sample is predominantly white, female and consists of subjects from middle and upper socioeconomic status, (please see Appendix A for description of data sources) (Allison et al., 1999, 1537). Nonetheless, the idea that high level of adiposity is a major and preventable killer started to resonate in numerous news stories. During the same year the *American Obesity Association*, a non-profit organization hosted a conference titled ‘*Obesity: The Public Health Crisis*’. Gard (2010) argues that one of the main goals of this association is to regard ‘obesity’ as a disease of ‘epidemic’ proportions (p. 16). Gaining mass popularity, the ‘obesity’ discourse or using Gard’s (2010) wording the notion that ‘obesity’ was an imminent public health crisis became a ‘rhetorical virus’ (p. 15). Another study by the Center for Disease Control and Prevention (CDC) attributed 400,000 deaths to poor diet and physical inactivity (please refer to Appendix B) (Mokdad et al., 2004, p. 1240). Similarly to the Allison and colleagues (1999) study, Mokdad and others (2004) research was immediately judged for methodological reasons, internal dissent, and compromised

quality controls (Gard, 2011, p.16). Consequently a second study was conducted by CDC using data from National Health and Nutrition Examination Survey I, II, and III (NHANES), this study attributed around 26,000 deaths to overweight and 'obesity' (please see Appendix C for details) (Flegal et al., 2005, p. 1863-1864). Going from 400,000 to 26,000 is quite a leap, however due to the lack of alarmist rhetoric in the new estimates their popularity was not nearly as prevalent as the previously incorrect estimate. As Gard (2011) suggests 'The worse the news, the better it travels' (p.25). The great variance in the number of deaths associated with 'obesity' does not allow the making of conclusions on how great the impact of this so called disease is.

ii. Costs associated with 'obesity'

The second dominant contradiction found in literature is the cost associated with corpulence. This is an important part of the 'obesity' discourse, because there is constant pressure on governments as to where to delegate limited health care resources. Similarly to the rhetorical virus of 'obesity epidemic', high cost of 'obesity' is easy to 'sell' to the media and politicians. Thus, cost estimates should be taken with caution. For example in 2009, obesity is said to cost Ontarians around $4.5 billion, $1.6 in direct healthcare costs and $ 2.87 in indirect costs (Katzmarzyk, 2011, p.31). 'The three most expansive diseases associated with obesity were coronary artery disease ($1.4 billion), hypertension ($954 million), and osteoarthritis ($939 million); these three diseases accounted for 74% of the total economic costs of obesity' (Katzmarzyk, 2011, p.35). Calculating the cost of indirect and direct costs of obesity poses a problem. For example, how certain are we that obesity is the major cause for coronary artery disease, hypertension and osteoarthritis? Do

we account for other conditions that may cause these illnesses? The associations may be there, but there is no direct causation link between adiposity and experiencing these particular ailments.

Oliver (2005) provides a similar example of American researchers Wolf and Golditz who in 1998 estimated that obesity cost Americans 100 billion dollars per year. They did so by calculating 'all expenses associated with treating type II diabetes, coronary heart disease, hypertension, gallbladder disease, and cancer' (p.4). This is similar to Canadian estimates made by Katzmarzyk (2011) that suggest that adiposity and overweight are the sole causes of particular diseases. These types of assumptions drive up the cost of 'obesity', making it seem like a much bigger problem than it actually is.

iii. BMI and obesity diagnostic tools

The third contradiction found in literature is whether the BMI is an appropriate diagnostic tool. The use of BMI to classify obesity has been debated since the 'obesity' discourse gained mass popularity. Numerous scholars and medical professionals have fought for this index by stating that it is an easy and cheap tool which can provide relatively accurate data on the extent of the 'epidemic' (Keys et al., 1972). However, other scholars argue that BMI is not an appropriate decision making tool. It is too general and is not transferable between different populations due to physiological differences such as age, ethnicity, or muscle mass (Bagust and Walley, 2000). Using BMI can overemphasize the issue of obesity, and misclassify people as at risk where no risk exists (Lupton, 2013). Stanley, Leonard and Hawthorne (1986) show that BMI represent short people, or people with short legs as overweight. Similarly Guida and colleagues (2006)

show that BMI does not accurately measure adiposity in children in comparison to newer technologies such as bioelectrical impedance vector analysis (BIVA). For people with higher muscle mass, BMI also poses a problem as was shown by Jacobson and colleagues (2003). Their analysis shows that the correlation between body fat and BMI is very weak for professional athletes. Discussing and testing the effectiveness of the BMI equation is necessary in order to assess its accuracy in estimating obesity among populations of different ages and body composition.

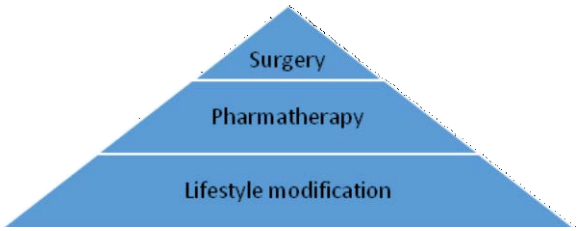
Alternative equations have been discussed in literature by numerous scholars. However BMI presence is persistent in 'obesity' studies as the benchmark measure, even though it has been proven to be inaccurate by numerous researchers. This raises the question of: why is BMI such a persistent measure? And why are clinicians and scholars so reluctant to use alternative measures? As was suggested by pro BMI scholars, this equation is easy to use and as has been shown to be a 'reasonable stature-independent metric' (Heimsfield et al., 2014, p. 1460). How one appreciates the word reasonable will depend on how one thinks about the importance of inclusion and transferability of this metric for all populations.

iv. Effectiveness of 'obesity' reduction strategies

'Obesity' reduction strategies have been implemented in a number of countries. These strategies vary by target population as well as implementation process or how they attempt to get the population to lose weight. Some strategies focus on healthy diet, and exercise, others focus on therapy, pharmaceutical as well as surgical interventions. As

suggested by J. Kuk the *Obesity Treatment Pyramid* looks like this (Figure 1), (Canadian Obesity Network, 2014).

Figure 1: Obesity treatment pyramid. 'Unusual suspects: the causes of obesity, not just diet and exercise'.



Note. Adapted from Canadian Obesity Network meeting at York University, 2014.

At the bottom of the pyramid is the behavioural/lifestyle approach which is used to target the majority of the overweight population. Next is pharmatherapy which includes prescription drugs as well as counseling within a clinical setting. The last and least used approach is surgical intervention. Most often this includes a number of surgical procedures which reduce the size of the stomach.

One of the biggest contradictions found in literature is whether any of these weight reduction approaches actually work (Oliver, 2005; Gard, 2010). It has been suggested by a number of scholars that losing weight is half the battle, the other half includes actually keeping the weight off (Ross, 2009, p. 998; Svetkey et al., 2008, p. 1144). Similarly to Ross (2009) and Svetkey and colleagues (2008), Merrill and others (2008) show that healthy behaviours and weight loss is sustained for up to 18 months after the initial weight loss (p. 5). Literature suggests that healthy weight maintenance is very hard to achieve, and in most cases weight regain is unavoidable (Lyons, 2009, p.77).

Pharmaceutical solutions to weight managements have shown to have many undesirable and dangerous side effects (Lyons, 2009, p.78). Surgical procedures have also shown to be have negative effects, such as need for revisional surgeries and future risk of nutritional deficiency (Bal et al., 2012). Lastly, Gaesser (1996) suggests that weight loss, contributes to early mortality and increased risk of negative health outcomes such as heart disease and type II diabetes (p.164). Thus, the discourse on effectiveness of weight reduction strategies is as murky as a dirty pond. If there is no clear consensus in literature on effective weight reduction strategies, or whether weight loss is actually beneficial for all who are considered overweight, than why is weight loss so predominantly pushed by public health onto Canadian adults and children?

b. Social regulation of weight

The public plays an important role in conceptualizing ‘obesity’. We engage in social construction of adiposity through everyday discourses and actions. The public is also subjected to medical surveillance and need for self-control. Peoples embodied regulation of the self and the more apparent external government forces such as public health programs make the public practice or resist such directives in an effort to be ‘productive’, ‘healthy’, and ‘proper’ members of society. Once we internalize these discourses ourselves, we begin to also regulate people around us. For example, being overweight is highly stigmatized in our society. We can see this by looking at the way obese people are represented on reality TV shows such as *The Biggest Loser* (Oliver, 2005, p.2; Lupton, 2013, p.1-4). As well as the way many perceive corpulence as an

inability to control one's appetite or desire to exercise. This line of thought labels obese people as lazy and morally inferior (Guthman and DuPuis, 2006, p.433).

c. ‘Obesity’ in politics and the role of neoliberal reform

The spread of scientific studies that emphasize the alarming rates of ‘obesity’ created the need for prevention and intervention strategies. Numerous politicians have claimed that obesity cannot be ignored. For example in the U.S. ‘The Health Secretary Alan Johnson said that obesity was a problem “on the scale of climate change”.’ (Gard, 2011, p.20). Similarly the former director of CDC Julie L. Gerberding compared obesity to influenza or plague (Gard, 2011, p.20). Another example is from an Australian politician Guy Barnett who stated that ‘obesity’ is the worst health epidemic in world history (Gard, 2011, p.21).

Hence, another salient discussion found in literature on ‘obesity’ revolves around ‘obesity’ reduction and prevention strategies. This discourse is usually present in public health agencies when discussing how and what strategies to employ to ‘deal’ with adiposity. For example:

> Public Health Ontario is a Crown corporation dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world. Public Health Ontario provides expert scientific and technical support to government, local public health units and health care providers. (Public Health Ontario, 2013)

The Public Health Agency of Canada and Public Health Ontario inform the government on the best scientific knowledge which drives ‘obesity’ prevention and reduction strategies. Because public health is a branch of the government, this discourse takes place within a political environment and is influenced by recent reforms such as neoliberalism. Guthman (2009) suggests that neoliberalism can be viewed as ‘a political economic project and a mode of governmentality’ (p.187).

Here a political economy perspective provides a useful lens through which we can analyze the rise of neoliberal ideology in Canada and the consequences such reforms have on healthcare. Raphael (2010) suggests that by looking at how neoliberalism affects income inequality, social cohesion, community infrastructure of neo-material living conditions we can determine the effect it has on public health. Raphael (2010) further suggests that by examining ‘how the broader social, political and economic context creates health advantageous or disadvantageous living conditions’ (p.74), we can see how ‘obesity’ affects some populations but not others. For example ‘obesity’ afflicts people from lower SES more than people with more affluent incomes.

d. Market-liberal countries, ‘obesity’ and stress

Offer and colleagues (2010) draw an interesting association between market-liberal countries that have greater economic insecurity which leads to higher levels of stress, consequently driving up ‘obesity’ rates (Offer, Pechey, and Ulijaszek, 2010, p. 297). The authors hypothesize that ‘economic uncertainty and unequal market and household experiences have increased stress, and that stress is conducive to weight gain; that market-liberal reforms have stimulated competition in both labour and consumption

markets; and that this has undermined personal stability and security.' (Offer, Pechey, and Ulijaszek, 2010, p. 298). The authors suggest that under neoliberalism, insecurity and inequality for example: work-related insecurity such as low income, poor job mobility, and lack of unionized jobs increases the probability of stress and adverse health outcomes (Offer, Pechey, and Ulijaszek, 2010, p. 297). Similarly Picket and others (2005) suggest that income inequality is associated with 'numerous negative health and psychosocial outcomes, such as lower life expectancy, higher homicide rates, and lower self rated health' (Picket et al., 2005, p. 670). Psychosocial stress is especially prevalent among the most disadvantaged members of neoliberal societies.

Stressed out individuals tend to overeat and over-indulge in high fat/comfort foods (Dallman et al., 2003). Dallman and others (2003) show that chronically stressed individuals tend to engage in disordered eating such as binging, or night-eating (p.11698). Most often the foods that stressed out individuals eat is energy dense foods or 'comfort' foods that make people feel better (Dallman et al., 2003, p. 11698). Thus it can be argued that institutional structures of neoliberal societies create 'obesity' by undermining personal stability and security which leads to psychosocial stress, consequently affecting how and what people eat

In conclusion, the reviewed literature suggests that conceptualizing 'obesity' is not an easy task. This multi-layer discourse requires close analysis in order to come to a holistic understanding of the issue. One of the biggest difficulties in 'obesity' is that there are numerous contradictions in the literature. Whether we look at 'obesity' estimates, cost analysis or the way 'obesity' is diagnosed, it can be seen that there is no consensus among

scholars and medical professionals. Neither is there a consensus on the appropriate prevention and reduction strategies. On one hand we have researchers who believe that governments should play no role in ‘obesity’ prevention, and on the other we have academics who believe that we need more government involvement, but not necessarily in ‘obesity’ prevention but in larger systematic forces which influence people’s health such as low SES and income inequality, and stress. Another salient point found in literature is the fact that we live in a fat-hating culture. This can be seen through numerous TV shows which stigmatize overweight people and by looking at the plethora of weight loss drugs, books, and exercise regime programs.

Chapter Three: Health analysis framework

a. Labonte's health analysis framework

i. Biomedical model

The medical approach to health sees the body as a complex machine. The biomedical model uses the 'disease (breakdown) - treatment (fix it)' model (Labonte, 1993, p.4). Through this approach, health is defined as the 'absence of disease or infirmity' (Labonte, 1993, p.4). This model is dominant among healthcare professionals and institutional authorities. The biomedical model favours statistical analyses and quantitative research. Prevention of disease is centered on 'medically-defined or physiological risk factors' such as high blood pressure, lack of immunization, high or low birth weight (Labonte, 1993, p.4). Thus this approach focuses on tertiary prevention, which sees treatment as prevention against further sickness or death. The medical model is more concerned with the physiology of the body, rather than external effects that cause disease, such as lack of financial resources, inadequate housing, or a lack of walkable neighborhoods.

In this discourse 'obesity' is seen as a chronic disease. The equation of energy in versus energy out is used to show how biological and lifestyle factors create 'obesity'. Thus if one consumes too many calories and does not engage in an active lifestyle, that person has a very high chance of becoming obese. According to this model 'obesity' should be treated according to the *Obesity Treatment Pyramid* (please see Figure 1), (Canadian Obesity Network, 2014). The biomedical model emphasizes the role of substances such as organophosphates, micro-organisms (such as viruses), maternal age-

young versus old, light exposure during sleeping hours, and lack of micro flora in the gut as some of the causes of obesity (Canadian Obesity Network, 2014). Biologically speaking these factors may contribute to obesity, yet they can be seen as of less importance in comparison to larger social structures that contribute to people becoming overweight such as precarious employment, unsafe housing, or income inequality all of which are linked to of stress which is associated with higher adipose levels and poor health itself.

ii. *Behavioural/lifestyle approach*

With the rise of chronic degenerative diseases the role of people's behavioural and lifestyle choices entered the medical sphere. Behavioural factors such as smoking, exercising, and engaging in unsafe sex came to be seen as 'determinants' of health (Labonte, 1993, p.5). Health from this perspective 'moves slightly beyond disease prevention, and incorporates notion of promoting physical well-being (feeling good, having energy, and being fit). "Health determinants" become synonymous with "healthy lifestyle"' (Labonte, 1993, p.5). Within this approach prevention is seen as secondary and primary. Secondary prevention describes ways of helping people change unhealthy habits, and primary prevention refers to programs aimed at 'helping people grow up with, or maintain, healthy behaviours (Labonte, 1993, p.5).

In this model 'obesity' is seen as a result of an unhealthy lifestyle which can be prevented by educating children and adults about healthy behaviours. Here people's behaviour/lifestyle choices pose as the main determinant of good health. For example, Obesity Network (2014) provided behavioural factors that contribute to weight gain such

as time of eating and what we eat, sleep deprivation, thinking and studying, and having modern accommodations such as AC.

iii. *Socio-environmental approach*

As the influence of the social sciences upon theorizing health grew, incorporation of sociological and ecological analysis entered the health discussion. ‘One reason for this shift was the awareness that most lifestyle improvements occurred principally among better educated, more privileged members of society’ (Labone, 1993, p.5). People who live in precarious situations tend to not be as concerned about eating enough fruits and vegetables because they are more concerned about being able to afford adequate housing, and other necessities of life. Labonte (1993), suggests that the ‘key concept in this expanded vision of health is health promotion’ (1993, p.5). WHO, 1986 defined health promotion as ‘the process of enabling people to increase control over, and improve, their health’, thus in order to reach one's full health potential the public needs to be provided with adequate shelter, education, food, income, healthy ecosystem, social justice, and equity (Labonte, 1993, p.5). The *Ottawa Charter for Health Promotion* identified five categories of strategies to help direct the health sector (WHO, 1986). These strategies are to create supportive environments, strengthen community action, develop personal skills, build healthy public policy, as well as reorient health services (Labonte, 1993, pp 6-7). In this discourse ‘obesity’ prevention can take place if the public has access to adequate housing, education, food, income, and ecosystem.

iv. *Structural-critical and political economy perspective of Raphael*

The political economy perspective builds upon the socio-environmental approach which includes larger social structures. Political economy directs our focus towards political and economic forces that shape people's life experiences and consequently their health. In this model the concept of health is ‘related to equitable distribution of resources within a society and the organization and exercise of political and economic power by various institutions and class groupings’ (Raphael, 2014). Within this approach health problems arise out of unequal distribution of economic and social power. Political economy provides a useful perspective through which we can analyze the rise of neoliberal ideology in Canada and the consequences such ideology has had on the health of Canadians.

Because Canada is a wealthy country, it is assumed that our children should have some of the best health. However the picture is otherwise. Among OECD countries Canada’s child poverty rate is among the highest with a rank of 20th of 30 OECD nations (Raphael, 2010, p.26). According to Raphael, ‘Children live in poverty as a result of decisions by societies on how to allocate resources. Children are poor as a result of their parents receiving low wages or if their parents are unemployed or on some form of social assistance, from rather limited benefit’ (2010, p.74). Thus, as if we follow Subramanian and Kawachi’s (2004) three pathways which connect income inequality to health we can see that poor public policy, influences income distribution, consequently affecting social cohesion and creating a larger divide in the health of the affluent and the poor.

Even though the impact government ideology has is not so obvious (since there is very little mention of child poverty rates, or income inequality in most public health documents), it is one of the most salient issues that has profound effect on public health.

b. Raphael's obesity analysis framework

Raphael (2015) provides a very useful framework through which these different approaches to 'obesity' can be summarized. Please refer to Appendix D for details. In this framework he suggests four models of association between 'obesity', social determinants of health and adverse health outcomes. Model #1 suggests that obesity is the cause of ill health. This model fits well with 'classical' obesity research that suggests that excess adiposity leads to various ailments such as heart disease, type II diabetes, and certain types of cancer without serious consideration of broader societal and structural issues.

In model #2, social determinants of health cause 'obesity' which in turn affects overall health. Here social determinants of health play a role in shaping 'obesity', and whose modifications consequently can be used to deter extra weight gain. For example, if an individual lives in a disadvantaged situation due to economic insecurity, poor housing, or low education level, his inclination towards obesity can be overcome by the provision of these social determinants of health by the government.

Model #3 suggests that 'obesity' is shaped by social determinants of health and contributes to adverse health outcomes. Here, adverse social determinants of health lead obesity which leads to health problems. But there are also direct effects of the social determinants of health upon health that are independent of the obesity pathway. This model is perhaps the most logical because it directly associates SDH with poor health,

and recognizes that the ‘obesity’ pathway is shaped by the social determinants of health but also makes a rather limited contribution to adverse health outcomes by itself.

In model #4, SDH lead to adverse health outcomes and to ‘obesity.’, However ‘obesity’ itself is not linked to negative health outcomes. This model suggests that health problems are a direct outcomes of adverse social determinants of health. ‘Obesity’ itself is not a causal factor in poor health. However adverse SDH leads to corpulence.

Chapter Four: Methodology

In preparation for this MRP three Canadian documents on 'obesity' were analyzed using qualitative content analysis technique informed by the framework of Schreier (2013). The documents consisted of three key reports: one from Public Health Agency of Canada and Canadian Institute for Health Information (*Obesity in Canada, 2011*), another from Public Health Ontario (*Addressing Obesity in Children and Youth: Evidence to Guide Action for Ontario, 2013*), and the last report is from the Fraser Institute (*Obesity in Canada, Overstated Problems, Misguided Policy Solutions, 2014*).

a. Analyzing documents

As suggested by Coffey (2013), document analysis develops an 'understanding of the way in which documents are authored, produced, used and consumed.' (p.368). In other words documents 'can be read as the sedimentations of social practices; have the potential to inform and structure the decisions which people make on a daily and longer-term basis; and constitute particular readings of social events' (May, 2001, p.176 in Coffey, 2013). This MRP will not only explore the content of these reports but also examine the process of production of the 'obesity' discourse. Similar to May, Prior suggests that 'The standard approach to the analysis of documents focuses primarily on what is contained within them. In this frame, documents are viewed as conduits of communication between, say, a writer and a reader – conduits that contain meaningful messages.'(Prior, 2008, p. 230). Thus these three reports can be read as not only factual papers, but ways of communicating particular conceptualizations of 'obesity' to the reader whether they are the general public, academics or health professional.

Scott (2004) argues that:

> Interpretation is a hermeneutic task that involves an appreciation of the social and cultural context and forms of discourse that structure a text. It is necessary to grasp the underlying point of view, from which the individual concepts in a text acquire their meaning. (p.284)

Coffey (2013, p.374) suggests using a tool called inter-textual relationship when conducting document analysis. This tool allows the researcher to compare and contrast similarities and differences between texts. This method will aid in drawing a holistic picture of the way the 'obesity' discourse is presented in these three Canadian reports.

Lastly, when analyzing documents Scott suggests that it is important to pay attention to 'authenticity, credibility, representativeness, and meaning' (2004, p. 283). 'To assess the accuracy of a report, it is necessary to look at the conditions under which it was compiled and, in particular, how close the author was to the events reported' (Scott, 2004, p. 283). Document analysis is not an easy task. It requires close examination not only of the written text, but also the authors and their relationship to the issue discussed. Thus I have briefly examined the authors or the organizations political standpoint, and motivation for producing reports on 'obesity'. In order to better organize and comprehend the three key reports I have used qualitative content analysis technique.

b. Qualitative content analysis

Schreier (2013) states that content analysis helps in reducing data, it is systematic and flexible (p. 171). This approach is useful at reducing data, by 'requiring the researcher to focus on selected aspects of meaning' (p. 170) that are most relevant to the

research question. It is also systematic because it requires coding. This approach is flexible in a sense that it ‘combines varying portions of concept-driven and data-driven categories within any one coding frame’ (Schreier, 2013, p. 171).

Schreier (2013) provides a process by which to conduct qualitative content analysis which consists of eight steps (please refer to the Table 2 below).

Table 2: Steps in Qualitative content analysis

Steps in Qualitative Content Analysis
1. Deciding on a research question. 2. Selecting material. 3. Building a coding frame. 4. Segmentation. 5. Trial coding. 6. Evaluating and modifying the coding frame. 7. Main analysis. 8. Presenting and interpreting the findings.

Note: Adapted from ‘Qualitative Content Analysis’, by Sage Handbook of Qualitative Data Analysis, 2013, p.174.

Schreier’s (2013) framework and eight steps in qualitative content analysis were used when analyzing the three reports discussed in this paper.

Similarly to Schreier’s (2013) step five and six, Franzosi (2004) suggests that ‘developing a good thematic analysis required intimate familiarity with the input text and its characteristics. It also requires extensive pretesting of the coding scheme’ (p.186). Thus each report was pretested using a small sample of the text which was later applied to the whole report.

To further expand on Schreier’s framework, Franzosi’s (2004) thematic content analysis was also used when coding the reports. Franzosi (2004) states that ‘In thematic

analysis, the coding scheme is based on categories designed to capture the dominant themes in a text' (p.186).

Furthermore, Julien suggests that content analysis can be used to analyze official reports because:

> Such an analysis may identify the stated priorities of that organization as well as reveal implicit political perspective. Thus, content analysis is useful for identifying both conscious and unconscious messages communicated by text (i.e., what is stated explicitly as well as what is implied or revealed by the manner in which content is expressed) (Julien, 2008, p. 120),

Thus, using qualitative content analysis will aid in deconstructing the reports to further examine what the documents try to convey to the reader, as well as which political perspective drives the way the reports represent 'obesity'.

In more technical terms the reports were coded using 'cluster of codes that translate into "themes".' which revealed broader messages in the reports. Julien (2008) suggests that 'categories or clusters of data identified may represent discrete instances (i.e., something that is apparent or not), or they may be represented as degrees of attributes, such as directions and intensity or qualities.' (p. 120). Similarly to Schreier (2013), Julien (2008) suggests that 'When applying labels to categories, it is good practice to use language consistent with that used in the text under analysis.' (p. 121). Thus codes were generated using the language used in reports. For a full list of codes, please refer to Appendix E.

To code the reports, QDA Miner 4 Lite was used. This software was downloaded from the Provalis research website (www.provalisreseach.com).

In conclusion, borrowing the words of Julien (2008)

> Qualitative content analysis can be helpful in answering "why" questions and analyzing perceptions. It is commonly associated with mass communications research, but it is widely applied in the social sciences whenever textual data is analyzed. In Qualitative research, content analysis is interpretive, involving close reading of text. Qualitative researchers using a content analytic approach recognize that text is open to subjective interpretation, reflects multiple meanings, and is context dependent (p. 120).

Qualitative content analysis allows for deeper interpretation of the document, this technique has been chosen to further understand what ideologies drive the conceptualization of 'obesity' in Canadian reports. This technique allows one to critically examine the underlying messages presented in the documents, and comprehend how the organization's ideologies influence the presentation of data and selection of referenced text. Since the reports are written from particular perspective, my interpretation of the data will also be guided by my personal ideologies. Thus, I believe it is important for me to engage in the process of reflexivity.

c. Reflexivity

As a fledgling researcher I acknowledge that my personal ideologies and worldview affect the way I conduct research. It is not hard to argue that we all come with our own assumptions about the world we live in. Our understanding of all issues, be it

‘obesity’ or neoliberalism, is guided by our lived experiences, academic backgrounds, and cultural values.

By acknowledging that I come with my own assumptions, I believe it is necessary for me to be as reflexive of my biases as possible. Thus I have chosen to use reflexivity as a tool to deconstruct and make clear to the reader the assumptions which I carry with me. Patton (2015) states that reflexivity ‘entered the qualitative lexicon as a way to emphasizing the importance of self-awareness, political/cultural consciousness, and ownership of one’s perspective’ (p. 381).

Potter (1996) suggests that reflexivity requires a three step process. The first step is to inquire into decisions affecting the research process (setting, access, data collection, rapport), second step is to inquire into methods used, concerns and questions about data recording and interpretations, and lastly to inquiry into one’s biases and perspectives (p. 188).

Building on Potter’s (1996) conceptualization of reflexivity, Mauthner and Doucet (2003) suggest that reflexivity is not confined to social location, theoretical perspective, and the need to document the research process, reflexivity also needs to include the interpersonal and institutional context of research, and the ontological and epistemological assumptions embedded within data analysis method. In other words one needs to consider how one’s academic and personal biographies as well as institutional setting influence knowledge production.

Haraway (1991, in Mauthner and Doucet, 2003), points towards a very interesting and important aspect of research, he states that ‘“scientific stories are not innocent’; they

reflect and cannot be decontextualized from surrounding events and institutional circumstances' (p. 422). Thus it is important to consider political and institutional settings within which one is conducting research. Furthermore Mauthner and Doucet (2003) suggest that one needs to state explicit ontological, epistemological and other assumptions informing research, provide an in depth analysis of the ways we interpret literature or select research for referencing, and pay close attention to conditions and constraints under which literature is produced.

Thus following Mauthner and Doucet's (2003) framework on reflexivity which includes Potters (1996) three step process, I hope to make my research as transparent as possible. I will begin with the last step, by defining my epistemological view. My worldview has been strongly influenced by my background in Sociology. Thus it has developed over time with influences from thinkers like Karl Marx, Max Weber, and Herbert Mead. As my knowledge grew, my location on the paradigm map moved towards a constructivist epistemology. I see the world as it is defined by our interactions, thus the concept of truth, whether scientific or cultural is socially constructed. We constantly negotiate reality and define truth based on our social environments. What we learn and how we learn is limited to our interaction with others, and our social worlds. However I also acknowledge that we are not autonomous beings located only within our immediate social circles but social beings that are a part of a much larger, complex and structured society.

Critical theory and intersectionality also had a profound effect on my ideology. Understanding how the intersection of culture, gender, age, ethnicity, socioeconomic

status, or sexual orientation shape the reality of one's world helps not only in deconstructing complex social issues but also in seeing how these issues were formed and perpetuated throughout history.

My personal biography must also be considered. Immigrating to Canada from Ukraine as a teenager, I had a chance to live in different political structures. My political ideology has been shaped by my lived experiences, as well as academic background. While completing my Masters Dr. Raphael enlightened me on the social democratic position which I began to closely identify with.

The second step suggested in the framework of Potter (1996) is to inquire into the decisions affecting the research process. I will begin my inquiry by discussing the reason why I chose to do an analysis of major Canadian reports on 'obesity'. Coming into the Master's program I was certain that 'obesity' was a major public health problem. The alarmist rhetoric presented by the media, politicians and public health, made me believe that something had to be done. In particular, I was interested in how 'obesity' affects children, because they are the future. I chose to analyze two public health reports because these documents stem from the government, thus first they 'must' speak the truth, and secondly they 'should' be unbiased, well at least this is what I thought in the beginning. The last report came from an 'independent non-partisan research and educational organization' (Fraser Institute) in Canada, which would provide a different perspective and contribute to a diverse conceptualization of 'obesity'. I acknowledge the fact that the Fraser Institute is not the most popular organization in my program due to their conservative political ideology. Even though their political perspective does not resonate

with me, I believe that their report provides a different perspective on ‘obesity’ which needs to be analyzed.

The second step of Potter’s (1996) reflexivity process is to inquire into the methods used, and concerns about data recording and interpretations. As a method I chose document analysis using qualitative content analysis technique as per suggestion from my supervisor and adviser. This method allows for thematic analysis of the document using coding, which allows for frequency analysis as well as more in depth analysis of the meaning of content. As a technique, content analysis fits well with my worldview. It allows for critical appraisal of the document and an inquiry into how the issue of obesity is conceptualized through everyday discourses informed by the government and the Fraser Institute. In terms of interpretation of the material, I intend to explore all sides of the issue as best as I can. I will examine the reports using the models described and draw on political economy, as well as importance of social determinants of health. I hope to explore differences in opinion, research perspective, and choosing of which literature to reference. Because there are differing perspectives on ‘obesity’, I will try my best to engage with the reports without personal bias. For example, even though I am highly critical of neoliberal reforms I will seek out perspectives which counter my ideology in order to get a holistic picture in this discourse.

As suggested by Mauthner and Doucet (2003) understanding the institutional setting which I am located in is an important part of reflexivity. York University is a progressive institution, unlike for example the Fraser Institute. York supports research that has varying ideological backgrounds.

Using reflexivity I hope to show as much transparency in my research process as possible. Inquiry into my ideological standpoint, epistemological position, and any other bias I carry with me due to personal or academic background allows me to overcome favoritism in order to explore the topic of ‘obesity’ to the full extent. Uncovering the political and institutional setting within which I am conducting research has enabled me as well as the reader to acknowledge whatever bias may be present in my research. I hope to be skeptical of the skeptics to the best of my ability.

Chapter Five: Findings: Reports as exemplars

a. *Obesity in Canada*: A joint report from Public Health of Canada (PHAC) and Canadian Institute for Health Information (CIHI), (2011)

The report produced by PHAC and CIHI conceptualizes 'obesity' as a chronic disease which affects a large number of Canadians. The report uses alarmist language such as 'obesity epidemic' to refer to the state of 'obesity' in Canada. Three different prevention strategies are presented. These are: clinical/health services, community level strategy and public policy strategy (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 2). This report acknowledges the fact that 'obesity' can be caused by the intersection of multiple factors, such as Aboriginal status, socioeconomic status, gender, place of residence, immigration status, education level, biological factors, age, screen time and sedentary behaviours or ethnicity. However, the primary assumption is that 'obesity' is caused by improper nutrition and lack of exercise. The majority of the report focuses on the effects of no exercise and poor nutrition on 'obesity' prevalence as well as negative health effects associated with overweight.

Using Raphael's (2015) model on 'obesity' (please refer to Appendix D) it can be argued that the report by PHAC and CIHI falls under model #2. According to the document the most dominant cause of poor health is 'obesity' which according to this report is caused by the lack of exercise and improper diet. Therefore behavioural activities cause 'obesity' which leads to adverse health outcomes. Social determinants of health *may* play a role according to the report, however SDH are not the main driving

force of the problem. This notion can be reiterated if we consider how many times particular phrases were mentioned in the report (please refer to Table 3).

Table 3: Number of Times Different Specific Phrases are Used in the PHAC/CIHI Report

Phrase	**Excluding Appendices and Reference list**
'heathy eating/nutrition'	0/7
'physical activity'	40
'low socio-economic status'	0
'SES'/'low SES'	11/2
'food insecurity'	2
'poverty'	0
'income inequality'	0
'working condition/s'	0
'education level'	1
'gender'	2
'culture'	0
'Aboriginal'	86
'housing'	0
'disability'	1

Note. The number of times particular phrases were mentioned in the document *Obesity in Canada* (2011), excluding reference list.

Thus, it can be concluded the PHAC and CIHI see 'obesity' as a major health crisis caused primarily by individual behaviours and affected on some level by the intersection of different social determinants of health.

Nonetheless, the role of social determinants of health is significantly downplayed in this report. Least mentioned determinants are working conditions, housing, poverty, and income inequality. However one determinant is addressed in greater detail, Aboriginal status. Aboriginal status was discussed in its relation to much higher 'obesity' rates in comparison to non-Aboriginal individuals. This was attributed to a number of factors such as socioeconomic status, gender, education level, cultural continuity, or lack of retention of traditional diets (Public Health Agency of Canada & Canadian Institute for Health Information, 2011).

In the report it is estimated that 'obesity' costs Canadians a lot of money. Specifically, the cost is stated to be from $4.6 billion to $7.1 billion annually (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 29). These estimates were derived from two studies which looked at the burden of disease in Canada. Both studies included costs of numerous other diseases associated with 'obesity'.

The first study conducted by Janssen (2004) defined 'obesity' costs as:

> …both the direct costs to the health care system (i.e., hospital care, pharmaceuticals, physician care and institutional care) and indirect costs to productivity (i.e., the value of economic output lost as a result of premature death and short- and long-term disability). The study focused on eight chronic diseases consistently associated with obesity. (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 28).

Katzmarzyk and Janssen (2004) estimate the cost of 'obesity' at $4.6 billion. Janssen and Katzmarzyk (2004) derived estimates using prevalence-based approach based

on meta-analysis conducted by the authors in 2004. Focusing on indirect costs of ‘obesity’ poses a problem. For example, why is ‘obesity’ associated with eight diseases for Janssen and Katzmarzyk (2004) and Anis and colleagues (2009) study also used in the report, suggests that ‘obesity’ is associated with eighteen other diseases. Not eight but eighteen! Thus raising associated costs to $7.1 billion (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 28-29). There may be correlations to some extent but it cannot be demonstrated that ‘obesity’ causes these other diseases. It seems to be difficult to estimate ‘obesity’ costs when there is such profound difference at how and what factors are included in the analysis.

Obesity in Canada focuses on three prevention strategies which can be used to fight ‘obesity’. These are health services and clinical interventions, community level strategy and public policy reduction strategy (Public Health Agency of Canada & Canadian Institute for Health Information**,** 2011, p.2)

The first strategy is clinical intervention and health services which focus on the individual. In this strategy the individual is the main focus of intervention. Here changes in exercise and diet habits are seen as strongly influential factors to ‘obesity’ prevention. Other preventative factors are also discussed such as bariatric surgery and drug prescriptions (Public Health Agency of Canada & Canadian Institute for Health Information**,** 2011, p.34).

The second strategy to ‘obesity’ prevention is community level intervention that focuses on influencing individual and group behaviours. This strategy ‘includes programs delivered in key settings, such as workplaces and schools, as well as both targeted and

universal public educational and information campaigns delivered through print, broadcast and online media.' (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 31).

The last strategy proposed by this report is the public policy strategy. This strategy suggests that individuals and families are often constrained by 'factors in the physical, social and economic environments that preclude to undermine' (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p. 33) healthy lifestyle choices. Similarly to the other two strategies for combating 'obesity', public policy approach also reinforces that it is the individual's lifestyle choices that cause extra weight gain. It suggests that factors in our physical, social or economic environments do not *allow* the individual to make healthy choices. For example if you live in a poor neighborhood you are more likely to have a higher BMI (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p.33). Another example that the report states is that children from higher socioeconomic statutes tend to be more engaged in organized sports, than children from family's who experience material depravation (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p.33). Lack of neighborhood walkability and access to active transportation also promotes higher weights, such neighborhoods tend to be located in areas characterized by low socioeconomic status residents (Public Health Agency of Canada & Canadian Institute for Health Information, 2011, p.33). This strategy has some resonance of the importance of adequate social determinants of health. However the notion of individual responsibility for one's health is still present.

Consequently the report proposes a number of political interventions that could promote healthy weights. Most of these recommendations rely on the support from different levels of the government. Here are some of the examples of proposed or already implemented strategies: create subsidy programs that promote healthy eating, land development to promote physical activities for children and adults, food labeling, marketing regulations for children foods and products, financial subsidies to promote exercise, and lastly higher taxation of unhealthy foods (Public Health Agency of Canada & Canadian Institute for Health Information**,** 2011, 34). Land development to promote physical activities does address structural barriers discussed in social determinants of health. However this point still reiterates that 'obesity' is caused by the lack of participation in physical activities and is the primary cause of adverse health outcomes.

In conclusion, *Obesity in Canada* does not contribute to a holistic conceptualization of 'obesity', mainly because it suggests that obesity is caused primarily by lifestyle/behavioural choices. Similarly the prevention strategies discussed focus mostly on the individual. Little attention is paid to the role of social determinants of health. 'Obesity' is said to cause numerous diseases whose identification depends on who is doing the analysis. The cost of 'obesity' varies, depending on what diseases are associated with overweight. Even when discussing community and public policy strategies, the underlying assumption is that it is up to the individual to eat better and exercise more. It seems that as long as the government 'facilitates' the individual in making the 'right' choice, their job is done.

b. *Addressing Obesity in Children and Youth: Evidence to Guide Action for Ontario* composed by Ontario Agency for Health Protection and Promotion (PHO), (2013)

Similarly to the PHAC and CIHI report *Obesity in Canada* this report starts off by examining the alarming state of 'obesity' among children and youth. 'Obesity' is described using words like epidemic and the report calls for immediate action. Similarly to the report on adult 'obesity', notions of unhealthy eating and physical inactivity are attributed to the growing number of overweight children and youth.

The report consists of three main sections. Part A provides an overview of literature which outline factors that contribute to 'obesity' and consequent health effects. Here is included how and where 'obesity' and overweight is measured. Lastly, this section explores how to use this data to show progress. Part B uses results of systematic literature reviews which look at '(1) the effectiveness of obesity prevention interventions; (2) the effectiveness of obesity treatment approaches; and (3) the cost-effectiveness of childhood obesity interventions' (Public Health Ontario, 2013, p. 3-4). The last section, Part C looks at current public health units, provincial, federal and multi-level government initiatives which address 'obesity' in children and youth in Ontario.

A small section of the report is dedicated to discussing the effectiveness of using WHO BMI growth charts and states that this system has been recommended above other BMI charts. Since the switch to WHO BMI classification:

> …estimates of obesity rates in children and youth in Canada from the 2004 Canadian Community Health Survey (CCHS) are 12.5%, 8.2% and 12.7% when using the CDC, IOTF and WHO cut-offs respectively. Using the same data, the

> IOTF cut-offs yield the most conservative estimates of overweight and obesity (CDC, 28.4%; IOTF, 26.2%; WHO, 34.7%). (Public Health Ontario, 2013, p.41).

As previously discussed, BMI has shown to be an unreliable adiposity measure in children. If the fact that different BMI-for-age charts produce different estimates does not raise concerns, than maybe a large body of literature that disputes overall BMI effectiveness should be considered. So for, Canada's using IOTF BMI system versus WHO BMI creates a difference of 8.4% affected children by 'obesity', which is pretty high.

The adopted review framework uses a socio-ecological and life course perspective. This framework is used to describe causal factors that affect obesity rates among children (please refer to Appendix F). This particular framework uses a basic medical equation of energy intake and energy expenditure. 'Behavioural settings' such as school, community, child care, and health care are also seen as playing an important role in prevention (Appendix I). The report addresses macro-level environments, for example food and beverage availability, physical activity, health care and work, and message environments. The last aspects discussed are the social norms and values, which are guided by ideology that can promote or deter 'obesity'. From a structural-critical perspective this framework is missing a very important piece: the influence of economic and political forces on 'obesity'. A revised review framework may help to close the gaps that are not addressed in this framework (please see Appendix G). In the revised review framework, I state the need to look at government ideology, type of welfare state, worker rights/job security, food insecurity environment, income inequality rates, and poverty

rates among adults and children. If we incorporate the need to assess the role of political and economic structure, we will gain a more holistic view of the causes of ‘obesity’.

The first part of the document provides a summary of causes and risk factors which lead to ‘obesity’. These are: maternal smoking, high birth weight, rapid infant weight gain – associated with low birth weight, consumption of sugar-sweetened beverages, physical inactivity and sedentary behaviour, and inadequate sleep (Public Health Ontario, 2013, p.14). Protective factors against ‘obesity’ are described as following: breastfeeding, and breakfast consumption, gestational diabetes, exposure to advertising for high calorie foods, childhood depression, and higher level of psychosocial stressors. Low socioeconomic status and poorly designed built environments are presented as less consistent evidence that *may* contribute to childhood ‘obesity’ (Public Health Ontario, 2013, p.15).

From the collected evidence in part A, it is apparent that the political economy perspective seems rather neglected in its relation to ‘obesity’ in this report. When discussing causal factors for child and youth overweight and ‘obesity', low SES and education did make it to the selected causal factors diagram (please refer to Appendix H). However factors such as parental job security, income inequality, housing, disability status and gender were not presented. Overall the report pays much more attention to healthy eating and physical activity than social determinants of health.

The phrase frequency analysis quite literally reflects the approach with which the document was written (please refer to Table 5).

Table 5: Number of Times Different Specific Phrases are Used in the

PHO Report

Phrase	**Excluding Appendices & Reference list**
'healthy eating'	136
'physical activity'	305
'low socio-economic status'	1
'low SES'	1
'food insecurity'	9
'poverty'	0
'income inequality'	0
'housing'	2
'education'	80
'disability'	2
'Aboriginal'	11

Note. The number of times particular phrases were mentioned in the document '*Addressing obesity in children and youth: Evidence to guide action for Ontario*' (2013), excluding reference list.

It is interesting to note that the statistical analysis of higher BMI among children in lower SES brackets was mentioned and the difference between highest and lowest socioeconomic status is quite large (p.27), however very little attention is paid to the importance of socioeconomic status in the overall document. Thus if we apply Raphael's (2015) 'obesity' association model, this report would fall under model #2 (see Appendix D), where 'obesity', shaped by some social determinants of health, is the cause of adverse health outcomes.

In part B, the report presents a number of prevention and reduction strategies. Some of which focus on pharmaceutical, surgical, lifestyle/behavioural interventions as

well as policy interventions targeted at businesses that sell and advertise to children (Public Health Ontario, 2013, p.70).

For lifestyle/behavioural approach the evidence presented from literature looked at studies that included primary care intervention, web-based initiative as well as an immersion intervention (also known as ‘fat’ camp) (Public Health Ontario, 2013, p.73). It is suggested that these initiatives prove most effective when used in a multi-component approach and that is more than one initiative is used to decrease weight. Other important factors which proved successful are parental involvement and qualified intervention by staff such as dieticians and specialized public health nurses (Public Health Ontario, 2013, p.74).

Two intervention approaches are included in the health care environment: pharmaceutical and surgical initiatives. It is important to note that none of the studies reviewed in pharmaceutical approach were conducted on children and only four studies involved youth. The literature reviewed focused on three weight loss drugs: sibutramine, orlistat and metformin (Public Health Ontario, 2013, p.76). The pharmaceutical approached showed some improvement ‘in triglyceride and high-density lipoprotein (HDL) levels, and the use of metformin resulted in small reductions in fasting insulin.’(Public Health Ontario, 2013, p.76). However, it is important to note that the pharmaceutical interventions include numerous drug side effects which included headache, increased blood pressure, and respiratory tract infections (Public Health Ontario, 2013, p.77)

For the surgical approach only two studies focused on children and youth. The medical procedure used was gastric banding. These showed improvement in 'metabolic syndrome prevalence and insulin sensitivity.' (Public Health Ontario, 2013, p.76). The reviewed literature suggests that surgical procedures work best when accompanied by a lifestyle modification approach. However, it is very important to note that a quarter of patients who undergo surgical weight loss procedures need additional surgeries to correct complications (Public Health Ontario, 2013, p.77).

Lastly, policy and environmental interventions largely target businesses and schools. For example, the report presents policies which regulate vending machine content at schools, or access to fast-food restaurants located near places children and youth frequent (Public Health Ontario, 2013, p.102).

Addressing Obesity in Children and Youth (Public Health Ontario, 2013), proposes a number of initiatives that are aimed at reducing childhood and youth 'obesity' in Ontario. However the presented initiatives often lack strong evidence of effectiveness. Whether it comes to surgical procedures or policy interventions that target schools and businesses, the reviewed literature suggests salient limitations which need to be addressed before implementation of these initiatives. One of the most discussed initiatives which is said to work best in conjunction with others is the lifestyle/behavioural approach which aims at changing eating and exercising behaviours in children and youth.

In conclusion *Addressing Obesity in Children and Youth* does not contribute to a rounded conceptualization of 'obesity' because it significantly downplays the role of social determinants of health. Neither does the report acknowledge the impact neoliberal

reforms have on ‘obesity’ creation or prevention strategies. This I believe is due to the socio-ecological and life course perspective which was chosen as a review framework. As was previously discussed this framework has major limitations. If a revised review framework provided is used a more complete conceptualization of ‘obesity’ can be reached.

c. *Obesity in Canada: Overstated Problems, Misguided Policy Solutions* (Basham and Esmail, 2014)

At the onset it must be noted that Basham and Esmail’s political position can be seen as guiding their analysis of ‘obesity’ in Canada. Even though my political standpoint is very different from theirs, I believe it is useful to analyze ‘obesity’ from their perspective. These authors bring forth a number of interesting arguments.

The report starts off by discussing ‘obesity’ estimates. Unlike *Obesity in Canada*, the situation presented by Basham and Esmail (2014) does not call for drastic measures. This is because the authors suggest that current ‘obesity’ trends do not signify an epidemic. Using data from Statistics Canada the authors state that ‘obesity’ rates have stabilized for all populations except adult women. In 2011:

> ‘18.3 percent of Canadians aged 18 and older reported height and weight that classified them as obese, virtually unchanged from 2009 (Statistics Canada, 2011; emphasis added). Consequently, Statistics Canada finds that “[t]he rates of overweight and obese females and males have remained stable since 2009”. Furthermore, Statistics Canada found that over -weight rates have been stable from 2003 to 2011 (Statistics Canada, 2011)’. (Basham and Esmail, p.4).

The rate of overweight adults have been relatively stable since a decade ago (Basham and Esmail, 2014, p.4). The authors argue that stabilizing rates of obesity do not indicate an epidemic.

Similarly to other 'obesity' skeptics Basham and Esmail (2014) suggest that negative health outcomes such as disease or early mortality accompany only the people at the highest level of BMI classification (Oliver, 2005): BMI level 35 and over. For people in the overweight and BMI class I category, they conclude that:

> In total, numerous empirical analyses of the relationship of BMI to mortality have found that mortality rates are little different between groups with BMI scores from 20 to 35, and that normal weight individuals of both genders do not appear to be relatively more long-lived than overweight individuals or even Class I obese individuals. (Basham and Esmail, 2014, p.19).

When discussing 'obesity' costs Basham and Esmail also present a different picture. Unlike the *Obesity in Canada* report which bluntly uses estimates that are different depending on the number of diseases associated with 'obesity', Basham and Esmail (2014) not only discuss indirect and direct costs, but they also point to the costs mostly borne by the individual. Here they refer to research by McCormick et al. (2006), who:

> in a review of the economic costs of obesity, note that obese individuals are less likely to be in employment for reasons specifically related to non-health-status characteristics of obesity (perhaps job discrimination or perceptions of lower productivity). (McCormick et al. (2006), cited in Basham and Esmail, 2014, p.24).

The authors suggest that because obese individuals tend to live shorter lives the strain on healthcare for palliative care (which increases with older age) is reduced. Thus obese status does not necessarily contribute to elevated healthcare costs.

Another interesting point that Basham and Esmail (2014) suggest is the cost of 'obesity' for the tax payer through government intervention strategies which may not necessarily prove appropriate. Interestingly enough Basham and Esmail (2014) turn from saying that individuals bore most of the cost of 'obesity' to alluding that because Canada has a public healthcare system the only role the government should play in the 'obesity' discourse is to alleviate the costs put on non-overweight individuals through the taxation for healthcare. Once again, Basham and Esmail's political standpoint comes into play. It would be helpful as well as allow for more transparency in their research if the authors wrote a statement acknowledging their political position.

Lastly, Basham and Esmail (2014) discuss prevention strategies for obesity. Stemming from their conservative political standpoint, Basham and Esmail (2014) call for no or as little as possible government involvement in addressing 'obesity'. When discussing policy prescriptions, the authors argue that 'Unfortunately, we find little reason to believe that these paternalistic interventions into our private lives would have a meaningful impact in reducing expanded Canadian waistlines, even if claims of a larger problem are to be believed' (Basham and Esmail, 2014, p.30).

To further expand on the role of the government in 'obesity', the authors suggest that any government intervention is an intrusion into people's private lives (Basham and Esmail, 2014, p.27). For example, if the government decides to implement a 'fat tax' or a

'junk' food tax, they will be punishing both the 'normal' weight consumer and the overweight one. As the authors argue, why should a person who sees a chocolate bar as a treat be subjected to tax 'penalty' in order to benefit the obese person who sees a chocolate bar as an often consumed food? Similarly to the intrusion into personal life and on consumer choice, Basham and Esmail (2014) state that 'fat tax' regulation will unjustifiably penalize the business industry (p.31-32). Such policies they argue, have a negative and unfair impact on businesses. On the other hand, it can be argued that businesses are able to adapt to such changes by producing lower calorie product, such as diet sodas or substituting sugar with non-caloric sweeteners.

In their plea for free market economy approaches, Basham and Esmail (2014) argue that private solutions may be better than government interventions. They state:

> The private sector might also be a source of solutions to concerns about the prevalence of obesity, and already provides a broad range of options for those who wish to alter their lifestyles and diets in search of a reduction in excess weight. For example, the diet and exercise industries are working to counter the prevalence of excess weight through books, videos, weight loss clinics, gyms, and exercise equipment, among other approaches (Basham and Esmail, 2014, p.63).

This is very interesting because most 'obesity' skeptics acknowledge that the diet industry is a part of the problem. Gard (2011), Lupton (2013), and Gaesser (1996) all see the diet industry as playing on people's intention to get thin. As has been shown in research diets rarely work, and in most cases cause more harm than good (Gaesser, 1996). However Basham and Esmail (2014), again due to their ideological standpoint see

businesses as intenders of no harm but rather as part of the solution. And of course, this would be possible if businesses were some sort of conscious beings truly concerned with people's well-being, however the fact of the matter is that most corporations care about one thing, and one thing only – profit.

Nonetheless Basham and Esmail (2014) propose another argument that businesses also support weight loss programs at work while at the same time paying obese people less because of higher insurance premiums for overweight individuals. This is the case for U.S, not Canada. However I believe it is important to point to the contradiction in their argument.

Now I would like to locate this report on Raphael's (2015) 'obesity' association model. Because Basham and Esmail (2014) do not see 'obesity' as the cause of all ills, the connection that 'obesity' causes bad health is limited. The authors argue that only the furthest levels of 'obesity' (BMI class II, and III) are associated with negative health outcomes (p.17). For the overweight and BMI class I obese little health concerns exist (p.18). In fact the authors' site reports that suggest that being overweight is a protective factor especially for people from lower socioeconomic status (p.17). For Basham and Esmail (2014) social determinants of health are not related to overweight or obese. This is perhaps because the concept of social determinants of health is almost nonexistent for these authors. For Basham and Esmail (2014) the individual is responsible for his or her own wealth and health. The same goes for businesses, which are responsible for generating wealth. Thus neither the individual nor the business should be restrained by the government. Rather both are free enterprises in charge of their own well-being and

success. So it is problematic to locate this report on Raphael's diagram, however, I will argue that it is best suited under model #1 (Appendix D). According to model #1, 'obesity' leads to adverse health outcomes, the authors argue that 'obesity' does pose health problems but only for the morbidly class II and III obese. However it must be noted once again that for Basham and Esmail (2014) for the majority of people classified as overweight or obese, extra weight does not constitute bad health.

In conclusion, Basham and Esmail's (2014) report provides an interesting perspective on 'obesity'. Their political standpoint strongly influences their prevention and intervention strategies. Even so, the authors point to the limitations and biases of government reports which I believe is worth recognizing. Their solutions to the 'problem', quotes included because they really do not see 'obesity' as such as big deal as it is made out to be by public health agencies, focus on private sector, and they recognize that individual behaviours may influence one's weight. The concept of social determinants of health is non-existent in this document. For word frequency analysis of this report please refer to Table 4 below.

Table 4: Number of Times Different Specific Phrases are Used in the Fraser Report

Phrase	Number of times mentioned
‘heathy eating’	6
‘physical activity’	6
‘low socioeconomic status’	0
‘SES’/’low SES’	0/0
‘food insecurity’	0
‘poverty’	0
‘income inequality’	0
‘working condition/s’	0
‘education level’	0
‘gender’	0
‘culture’	0
‘Aboriginal status’/‘Aboriginal’	0/0
‘housing’	0
‘disability’	0

Note. The number of times particular phrases appeared in the document ‘*Obesity in Canada*: *Overstated Problems, Misguided Policy Solutions’* (Basham and Esmail, 2014), excluding reference list.

I believe that the concept of social determinants of health is not present in this report because these authors are right-libertarians. As ‘obesity’ skeptics Basham and Esmail (2014) raise a number of interesting points, however the shortcomings in some of their arguments need to be addressed.

Chapter Six: Discussion

The three reports presented conceptualize ‘obesity’ differently in terms of estimates of affected individuals, costs associated with ‘obesity’, as well as prevention strategies. The alarmist rhetoric used in two government reports suggests that ‘obesity’ is a serious public health threat that requires immediate action. Hence the goal made by the government of Ontario to reduce childhood ‘obesity’ by 20%, and urgent calls for action stemming from PHAC and CIHI.

Perhaps as Gard (2014) states ‘the bigger the problem the faster it travels’. In the case of two government reports, the bigger the number of people affected, the higher the dollar amount spent on this so called disease, the easier it is to grasp everyone’s attention. With sky rocketing cost estimates and prevalence, ‘obesity’ has gained a lot of negative publicity. The voices of ‘obesity’ skeptics who have been expressing their concerns regarding how cost analysis are done and how estimates are calculated since the mid-nineties have consistently been overshadowed by ‘obesity’ researchers who point to the alarming numbers (Gard, 2014).

Nonetheless, the report by Fraser Institute describes a different story of ‘obesity’. As ‘obesity’ skeptics Basham and Esmail (2014) suggest that the ‘obesity’ problem is grossly overstated and the proposed policies and prevention strategies are not appropriate. Their anti-government position is strongly influenced by their ideological stand which many would disagree with. However I see both value and contradictions in many of their arguments.

Basham and Esmail (2014) show that rates of obesity among Canadian youth have remained largely unchanged since 2005 (p.10). This is a very interesting perspective considering that *Addressing Obesity in Children and Youth* and *Obesity in Canada* present a very different, alarming picture.

Unlike government reports, Basham and Esmail (2014) acknowledge that 'obesity' estimates may not necessarily depict a holistic picture, because they are based on small samples of population, often using self-reported data (Basham and Esmail, 2014, p.5). The authors also draw attention to the limitations of BMI as a diagnostic tool (Basham and Esmail, 2014, p.12). The fact that BMI does not accurately measure adiposity has been previously documented (Roubenoff et al., 1995). It is interesting to note that since the change to WHO BMI classification system, childhood 'obesity' has grown from 24.8% (using International Obesity Task Force BMI classification) to 31.5% (WHO BMI classification) (Basham and Esmail, 2014, p.13). It is interesting that this difference is not discussed in *Obesity in Canada* and is slightly explained in *Addressing Obesity in Children and Youth* without an explanation for the change. I believe it would be very helpful for all reports to discuss different classification systems, and the justification for using them.

Nonetheless, similarly to the government reports whose underlying message suggests that lifestyle/behavioural changes are most appropriate for 'obesity' prevention, even when discussing community or public health strategies, Basham and Esmail (2014) suggest that it is up to the individual to manage their weight, as well as the costs associated with adiposity.

Nevertheless the reports differ greatly when it comes to the role the government should play in 'obesity'. When discussing political prescriptions it is hard to not automatically refer to Basham and Esmail's (2014). Firstly, Basham and Esmail (2014) argue that policies such as 'fat tax' restrict people's choice and fly in the face of free market economy we live in. Similarly when it comes to food labeling, Basham and Esmail (2014) argue that the government assumes that people do not possess the information and knowledge about foods. Citing the study of Golan and colleagues (2003), Basham and Esmail (2014) argue that it is income not lack of information that characterizes people's food choices (p.49). Having to state nutritional content on foods in stores or restaurants, also poses additional costs for the business.

It is hard for me to agree with all Basham and Esmail's points, however I do see value in their argument for food labeling, I believe we all (adults and probably most children too) know the difference between eating an apple or a donut. We have seen the ads! Thus it is not necessarily that we do not possess the right information, it is that we choose differently. Whether the choice is based on income, or palatal preferences.

Secondly, Basham and Esmail (2014) state that land development, and financial subsidies for exercise programs or healthy foods will cost the government, hence the tax payer money. According to the authors it is the free individual's choice to exercise or not, and to eat healthy foods. However what Basham and Esmail do not take into consideration is the structural barriers that limit people's ability to be physically active, or eat healthy foods.

An interesting point that needs to be addressed is regarding government fitness and public transit subsidies in Canada. For example, two tax credit programs provided by the government of Canada: Children's Fitness Tax Credit and the Federal Tax Credit for Public Transit. These subsidies are abysmal to say the least. Here I'm speaking from personal experience. My child is enrolled in swimming and other community programs almost all year around and my family uses public transit. Thus we apply for both these programs. The tax break and return we get as a household is minute. Such public policy strategies may look good on paper. However in reality their contribution to mitigating financial costs of living a physically healthy lifestyle is very small and these policies most likely do not influence 'obesity' rates.

All in all, Basham and Esmail's ideologies fit well with neoliberal reforms which support free market economies, and individual responsibility for one's health. They suppose it is enough that we have publicly funded health care, why should the government pose more restrictions on individuals and businesses? Shouldn't the fact that we have public health care be more than enough? Some would argue it is. However I would argue it is not. If neoliberal reforms are imposed on citizens who have no choice but to comply by the new rules, how are they to act as self-responsible individuals? The assumption that free markets benefit everyone is questionable. As was discussed by Offer and colleagues (2010). There is an association between elevated levels of stress and free market public policies which cause higher prevalence of 'obesity' in market-liberal countries.

Addressing Obesity in Children and Youth (Public Health Ontario, 2013) proposes a number of strategies for 'obesity' prevention that involve the school system. It is suggested that in policy and environmental initiatives schools serve as one of the main intervention areas. Presenting schools as an important setting for intervention poses a number of problems. For example, strategies such as active school transport (AST) are suggested as good initiatives. AST is part of a physical activity initiative which includes any type of self-propelled travel to and from school. AST includes activities such as walking, biking, and skating. However, research by Chaufan and colleagues (2013) point to a different conclusion, it suggests that physical activity such as AST does not equate to lower BMI levels. Their analysis shows that American children who have higher participation rate in AST were also more likely to receive free or reduced price meals, suggesting that they are from lower socioeconomic statuses. Contrary to popular belief in the energy in and energy out equation, the children who participated in AST, and reduced meal price programs had higher levels of 'obesity' (Chaufan, Yeh, Ross, Fox, 2013, p. 30).

Regulation of content in vending machines in schools, and school cafeterias also poses problems. For example, the implementation of Ontario School Food & Beverage Policy (PPM 150) has shown to not be effective in reducing unhealthy eating habits on school property. Callaghan and colleagues study shows that when vending machines were stocked with 50% healthy food items, the sales revenues went down from 0.7% to 66% with an average of 33% (Callaghan et al., 2010, p. 188). The researchers suggest that even

though students were well aware of the nutritional value of healthier items, barriers such as price, value, and taste were often stated (Callaghan et al., 2010, p. 189).

Another set of researchers argue that such policies impede on students choice, for example, Downs and colleagues (2010), as well as MacLellan (2010) and others show that students in PEI expressed distaste for healthier foods, stating that it was just unappealing, and students felt like they were not getting their money's worth . If the food available is not liked by students, than they are not going to consume it. Thus the policy becomes ineffective in achieving healthier eating habits. After the implementation of PPM150, many Ontario high school students expressed their disapproval of such initiatives. An interesting video made by Brampton high school students one of which is Samuel Battista state that if the desirable food is not available in school, students will simply get it from convenience stores or other food outlets (Battista & Baah, 2012). Numerous other students in the video expressed their aversion for the new healthy foods served (Battista and Baah, 2012).

Perhaps the most interesting facts about PPM150 come from the review conducted by the Auditor General of Ontario. Similarly to the findings of Callaghan and colleagues (2010), the report states that cafeteria sales have gone down between 25% - 45%, vending machine sales went down 70%-85% (Office of the Auditor, 2013, p.105). The report also shows that there is little compliance to nutritional guidelines presented in PPM150, for example, in one school some foods exceeded the fat amount by 50%, and another item had 40% more sodium than recommended, and lastly another food item contained one quarter of compulsory amount of fiber (Office of the Auditor, 2013, p.106).

The report by Auditor General of Ontario suggests that school nutrition policies are failing. Lastly, I would like to add that PPM150 applies to both elementary and high schools. I strongly believe that for such policies to be effective we need separate policies suited specifically for elementary and high schools. As has been stated before pushing the 'healthy' lifestyle agenda onto schools only strains the already overloaded curriculum

Obesity in Canada proposes community strategies that aim to influence individual and group behaviours through various forms of media. A number of such programs exist in several developed countries. As the report suggests these campaigns aim to influence a number of risk factors, such as eating and fitness habits, alcohol consumption during pregnancy, as well as smoking. Such community based prevention strategies vary in their presentation, which is what the Australian *Measure Up* campaign has been strongly criticized for by Lupton (2014). Aside from being offensive and shaming fat people, Lupton (2014) argues that such campaigns show little impact on audience members' weights (p.37). For examples of *Measure Up* campaign print media (please refer to Appendix I), and for an example of U.S. campaign *Strong4Life* using similar visual messaging (please refer to Appendix J). Some of such campaigns appropriate soft language and gently 'push' their agenda onto individuals, these often use cartoon like images and non-offensive language, for example Australia's *Swap It Don't Stop It* (please refer to Appendix K) campaign modeled after UK's *Change4Life* campaign. Other community intervention strategies use emotion triggering images of overweight people and children that are 'not' in control of their bodies.

This particular strategy strikes me as odd. If this is a community strategy, why does it so strongly focus on individual behaviours? This prevention strategy fits well with lifestyle/behavioural approach, where the main focus is on the individual lifestyle habits. Perhaps the goal of community strategies is to disseminate the information to a much larger number of people. Here it is not that particular groups are targeted for intervention, but everybody. Whether you are overweight or not, you are going to be exposed to such campaigns. Now, if you are of 'normal' weight according to BMI, these campaigns will make you feel reassured that you are doing the right thing for your health. However if you are overweight such campaigns can have both positive and negative influence on you. The positive may perhaps be that you will take that flight of stairs, the negative on the other hand can be much worse. For example, such messaging may trigger dieting (which as we have seen in numerous publications have very little success rate), (Gaesser, 1996, and Gard, 2011), or drastic means of losing weight such as starvation. For others, such campaigns may cause considerable psychological stress, lowered self-esteem, and body shame (Lupton, 2014).

Another salient point to mention is that community prevention strategy costs considerable amounts of money. This, Basham and Esmail (2014) would argue, is unacceptable. Print, broadcast and online media are expensive. It is suggested by the report that community prevention strategies can be utilized in public places like schools (Public Health Agency of Canada & Canadian Institute for Health information, 2011, p.31). Targeting schools as places of intervention may strain the public school system by taking away time from instruction and the curriculum. Aside from these consequences of

community prevention strategies, the main point disseminated through such campaigns is that it is up to the individual to eat well, exercise, and maintain appropriate weight.

Applying Labonte's health analysis framework

'Obesity' is multi-layered and very complex, and it really depends on what heath analysis framework is used to look at it. This is where I believe Labonte's (1993) analysis proves to be very useful. According to Labonte's (1993) framework, PHAC, PHO, and CIHI view 'obesity' as a disease which primarily stems from poor lifestyle/behavioural habits. Notions of socio-environmental effects as well as biological factors are present in *Obesity in Canada* and *Addressing Obesity in Children and Youth*, however very little attention is paid to critical-structural and political economy perspectives. Where mentions of poverty and low socioeconomic status are made, little expansion on these factors is conducted. Income inequality is almost absent from all the reports discussed. The report conducted by the Fraser Institute, uses almost all of Labonte's frameworks, except for the critical-structural and political economy perspectives. This is attributed to their political ideology. For Basham and Esmail (2014), political economy does not play a role on people's health because they see individuals as in charge of their own health and life, and believe in free market economy shaped by their neoliberal ideology. Labonte's (1993) health analysis framework is highly useful when discussing how and why 'obesity' is presented in particular documents.

Chapter Seven: Conclusion

In conclusion, ‘obesity’ and its health effects is a highly contested discourse. Numerous researchers and medical professionals see it as a huge public health concern. However there are also scholars who question the alarmist rhetoric presented by public health agencies and WHO. From the PHAC, PHO, and CIHI reports, ‘obesity’ is presented from a lifestyle/behavioural model with genetic and socio-environmental factors touched upon. However the critical-structural perspective is largely neglected. Because ‘obesity’ is presented in such limited ways, there are large gaps in how ‘obesity’ is conceptualized.

The report by Fraser Institute counters many points presented in the government reports. This is especially so when discussing the negative effects of overweight and ‘obesity’ reduction strategies. However their goal is to show that governments have little role to play in people’s lifestyle habits nor should governments regulate businesses.

The lifestyle/behavioural approach trumps all other health analysis frameworks in the ‘obesity’ reports discussed. We need to move away from the behavioural/lifestyle model, in order to understand and conceptualize ‘obesity’ holistically. This discourse needs to be presented using all four of Labonte’s (1993) frameworks. It needs to include and discuss the role Canada’s political economy and neoliberal public policy reforms play in ‘obesity’ creation, prevention and reduction strategies.

Raphael’s (2015) model #3 best represents the causative relationship between poor health, ‘obesity’ and the social determinants of health. I believe that lack of adequate SDH causes most health problems. SDH also contributes to ‘obesity.’ However, as

discussed previously, the negative health effects of adiposity are disputed in the literature. Thus most of the people classified as ‘obese’ do not experience adverse health outcomes. Only class III ‘obese’ according to BMI classification carry particular negative health consequences. But this is specific to class III which represents a small number of individuals.

Unfortunately, the role of social determinants of health is largely absent from all the reports discussed. Instead of spending time and limited health care resources on ‘obesity’, I believe the government should address the underlying causes of poor health such as income inequality, lack of social cohesion, community infrastructure, and access to health care resources. Social determinants of health have a profound influence on how people live out their lives and consequently their health status. Arguably more so than eating healthy foods and getting enough exercise.

This MRP poses a number of research limitations. Firstly it only looks at three Canadian reports, and there are numerous other government and non-government reports on ‘obesity’. Secondly, it would be helpful to look at other forms of media, such as websites which promote weight loss, of both government and non-government organizations. Lastly, avoiding personal or academic bias is challenging. Even though I tried to address this issue by engaging in reflexivity, I still feel that my ideologies drove my research perspective.

Chapter Eight: Recommendations

'Obesity' has been contested on numerous grounds. One fact remains the same, people who are overweight or obese find themselves under constant gaze from the medical community, the academic community as well as fellow citizens.

I strongly believe that we need to stop viewing 'obesity' as a chronic disease. There have always been fat people, there have always been skinny people. One's size does not define one's moral attributes, desire to exercise or food preferences. Discrimination against fat people or plump people needs to stop. In order to do that our government needs to present the issue in a way that does not blame the individual. But rather expand the discourse to include larger forces that shape people's lives such as neoliberal reforms in public health policies.

I recommend that government reports address the role of social determinants of health in full detail. Public health has been talking about the importance of SDH for years, however it seems that when it comes down to incorporating this notion in reports and policy proposals, SDH is left out. We also need to turn away from the age old energy in and energy out equation, and consider structural forces that influence peoples weight, such as stress caused by economic insecurities and inequalities triggered by neoliberal reforms. If SDH and critical analysis of the impact neoliberal reforms have on health and public policy are included in the 'obesity' discourse, we will depict a holistic picture of 'obesity' in Canada.

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Appendix A

Table 2. Description of Data Sources

Study	N	Composition of Sample	Dates of Study	White, %	Female, %	Age at Entry, y	Weight and Height	Deaths During Study, No.	Source of Data
Alameda County Health Study[21]	6794	Representative sample of Alameda County, California	1965-1975	79	54	16-94	Measured	704	Raw
Tecumseh Community Health Study[22]	3905	Representative sample of Tecumseh, Mich	1959-1985	100	52	35-69	Measured	708	Raw
Framingham Heart Study[23]	5166	⅔ of residents in Framingham, Mass	1948-1980	100	55	28-62	Measured	1964	Raw
American Cancer Society Cancer Prevention Study I[24]*	829 636	Predominantly middle-class from 26 states	1960-1972	98	62	≥30	Self-report	124 229	Raw and published
Nurses' Health Study[25]†	115 195	Registered nurses	1976-1992	98	100	30-55	Self-report	4726	Published
NHANES I Epidemiologic Follow-up Study[26]	14 407	Representative sample of United States	1971-1992	78	60	25-75	Measured	4497	Raw

*Excludes subjects younger than 18 years, those with missing data, and women pregnant at baseline.
†Excludes subjects with preexisting cancer, heart disease, and stroke at baseline.

Note. Description of data sources. Adapted from 'Annual deaths attributed to obesity in the United States', by Allison et.al., 1999.

Appendix B

Table 2. Actual Causes of Death in the United States in 1990 and 2000

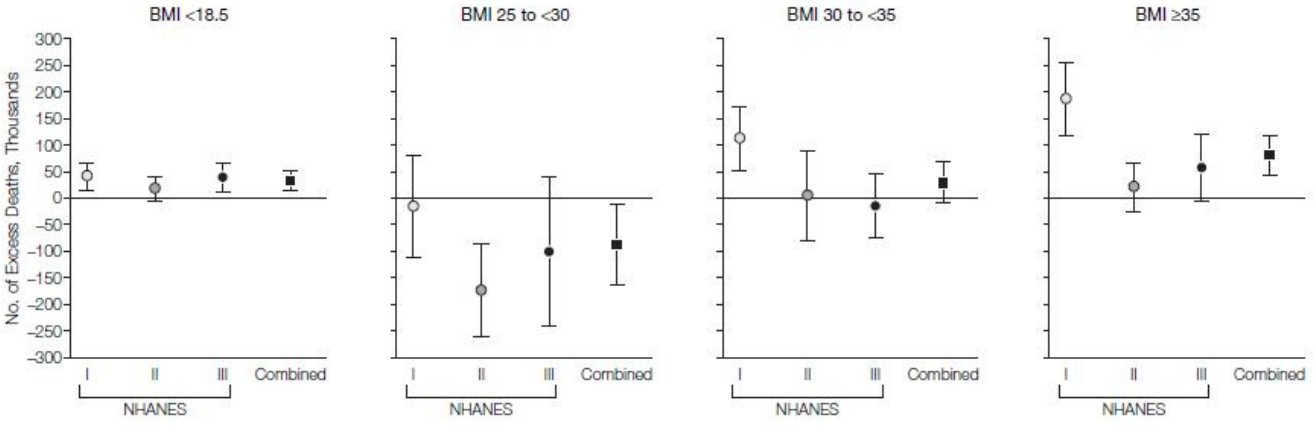
Actual Cause	No. (%) in 1990*	No. (%) in 2000
Tobacco	400 000 (19)	435 000 (18.1)
Poor diet and physical inactivity	300 000 (14)	400 000 (16.6)
Alcohol consumption	100 000 (5)	85 000 (3.5)
Microbial agents	90 000 (4)	75 000 (3.1)
Toxic agents	60 000 (3)	55 000 (2.3)
Motor vehicle	25 000 (1)	43 000 (1.8)
Firearms	35 000 (2)	29 000 (1.2)
Sexual behavior	30 000 (1)	20 000 (0.8)
Illicit drug use	20 000 (<1)	17 000 (0.7)
Total	**1 060 000** (50)	**1 159 000** (48.2)

*Data are from McGinnis and Foege.[1] The percentages are for all deaths.

Note. Actual causes of death in the United States in 1990 and 2000. Adapted from 'Actual causes of death in the United States, 2000', by Mokdad et.al, 2004.

Appendix C

Figure 2. Estimated Numbers of Excess Deaths in 2000 in the United States Relative to the Healthy Reference BMI Category of 18.5 to <25, Shown by Survey and BMI Category

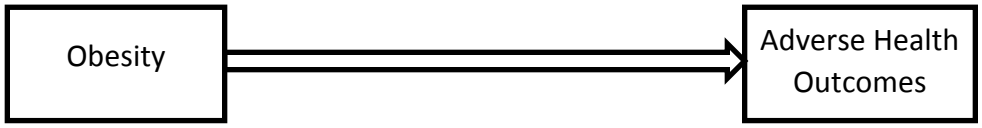


BMI indicates body mass index (measured as weight in kilograms divided by the square of height in meters). All estimates are based on the covariate distribution from NHANES 1999-2002, the number of deaths in 2000 from US vital statistics data, and the relative risks estimated from National Health and Nutrition Examination Surveys (NHANES) I, NHANES II, NHANES III, or the combined NHANES I, II, and III data set. Error bars indicate 95% confidence intervals.

Note. Estimated number of excess deaths in 2000 in the United States relative to the healthy reference BMI category of 18.5 to ≤ 25 shown by survey and BMI category. Adapted from 'Excess deaths associated with underweight, overweight and obesity', by Flegal et.al, 2005.

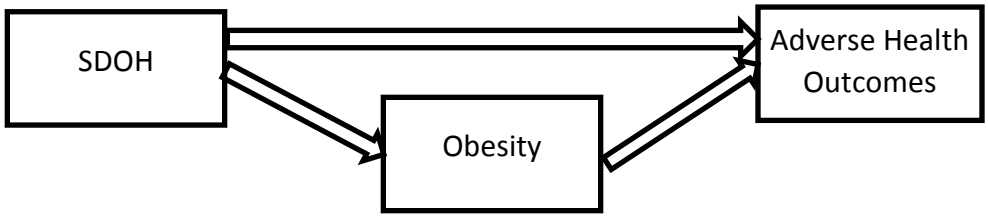
Appendix D

Four models of 'obesity' association with SDH and adverse health outcomes (provided by Dr. Raphael (2015))

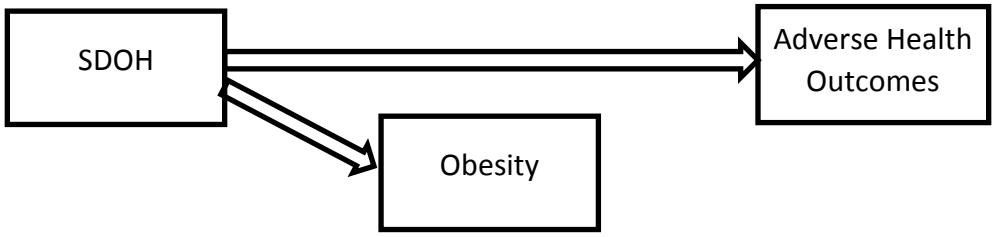


Model 1: Obesity is the cause of adverse health outcomes

Model 2: Obesity, shaped by the SDOH, is the cause of adverse health outcomes



Model 3: Obesity, shaped by the SDOH, contributes to adverse health outcomes



Model 4: Obesity, shaped by the SDOH, does not contribute to adverse health outcomes

Appendix E

Codebook for *Addressing obesity in children and youth: Evidence to guide action for Ontario* (2013)

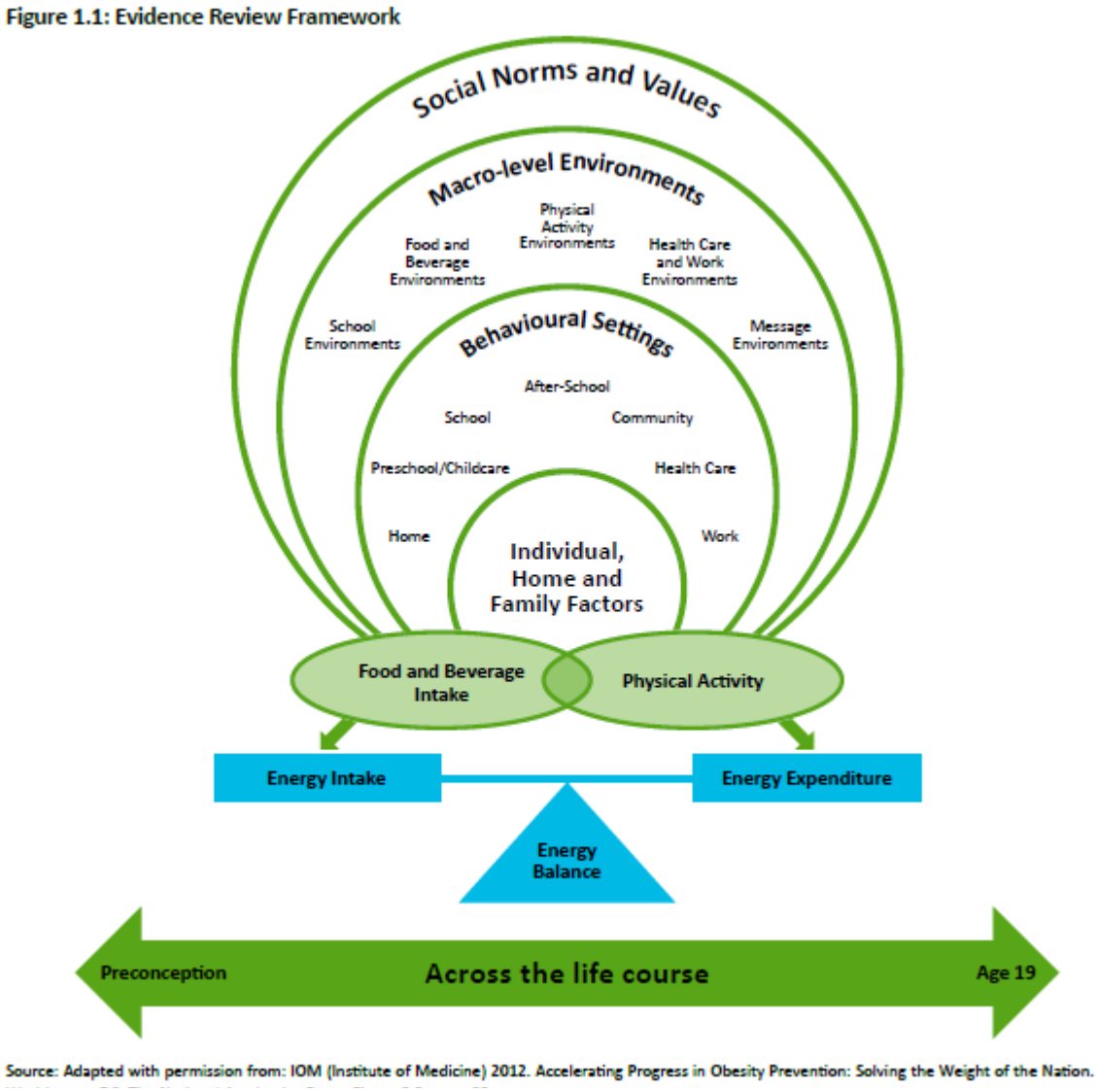
- **Extend of the Obesity Epidemic in Canada**
  - Alarming Obesity Epidemic!
- **Prevention Strategies**
  - Complex relationship between causation factors
  - Obesity reduction strategy
  - Measuring and monitoring
  - Effectiveness of strategies
  - School based strategies
  - Strategies aimed at changing behaviours
  - Current monitoring, measuring, and prevention strategies emplc
  - International obesity monitoring and reduction strategies
  - Governmental involvement in prevention
- **Reason for this document**
  - Document as evidence primer
  - Socio-ecological and life course perspective
- **Obesity and Health Risk**
  - Obesity and health risk factors
  - Obesity and associated diseases
  - Youth obesity developing into adult obesity
- **Causes of Obesity**
  - Genetic factors
  - Environmental factors eg. home, school
  - Behavioural/lifestyle factors such as eating, excercising, leasure
  - Maternal factors eg. smoking, gestational weight gain
  - Birth weight
  - Rapid infant weight gain
  - Mental health status
  - Protective and risk-related foods
  - Sleep duration
  - Exposure to chemicals
  - Build environments eg, place of residence, community
  - SES
  - Parental education status
  - Ethnicity
  - Advertising to children
  - Biomedical and Non modifiable risk factors
  - Food labeling
  - Food cost and food insecurity
  - First Nations Inuit and Matis
- **Protective factors against obesity**
  - Maternal and paternal behaviour eg. breastfeeding, rewards, attitudes
  - Healthy eating and excercise behaviours
  - Less consistent association in lit. eg. income, pshychosocial stressors
  - Consistently associated in lit. eg. maternal smoking, birth weight, eating
- **Obesity Estimates in Youth**
  - BMI
  - Obesity prevalence
  - Stabilizing rates in youth between 12-17
  - Measuring obesity in children
  - Z-scores
  - Self-reported rates
  - Skin-fold thickness
  - Waist and neck circumference
  - Settings for measuring and intervention
- **Treatment Approches**
  - Pharmaceutical and surgical intervention
  - GP and therapy intervention
  - Lifestyle/behavioural strategy
  - Population impact rather than individual impact
  - Multi-factoral treatment approach
  - Parental involvement
  - Clinical interventions
  - Computer/Internet based intervention
  - Business control
  - Policy intervention
  - Qualified intervention staff
  - Study selection
  - Research limitations
  - Research gaps
  - Immersion intervention
  - Adverse effects
- **Cost effectiveness**
  - Assessment of cost effectivness
  - Cost of programs/cost effectiveness
  - Cost effectivness by environment
  - Policy and message environment intervention
  - School environment/ social and behavioural interventions
  - Physical activity environment/social and behavioural inteventions
  - Health care environment/ clinical interventions
  - Eco evaluations of unidentified interventions

Codebook for *Obesity in Canada: Overstated problems, misguided policy solutions* (2014)

- **Conceptualization of Obesity**
  - Diet behaviours
  - Physical activity/fitness/excercise
  - Lifestyle/behavioural changes
  - Obesity epidemic???
  - Cause of obesity
- **Prevention and Intervention Strategies**
  - Lifestyle/behavioural approach
  - Community based strategies
  - Public policy strategies
  - Private solutions
  - Societal change
  - Government intervention
  - Intrusion into private lives
  - Cost of government interventions
  - Impact on business
  - Consumer choice
- **Obesity Estimates**
  - Obesity statistics
  - General obesity estimates
  - Stabilizing obesity rates
  - Obesity research limitations
  - Obesity estimates in youth
- **Obesity and Health Risks**
  - Obesity and disease associations
  - Obesity and health ristk
  - Mortality
  - Negative influences of pro-obesity on health
  - Overstated health risks
  - Positive health effects of overweight and class I Obese
  - Overweight, Class I, Class II, Class III
- **Obesity cost**
  - Direct health care costs
  - Indirect health care costs
  - Costs borne by the individual
  - Cost of obesity for government, and people through taxation
  - Discrimination at work
- **BMI**
  - BMI limitations

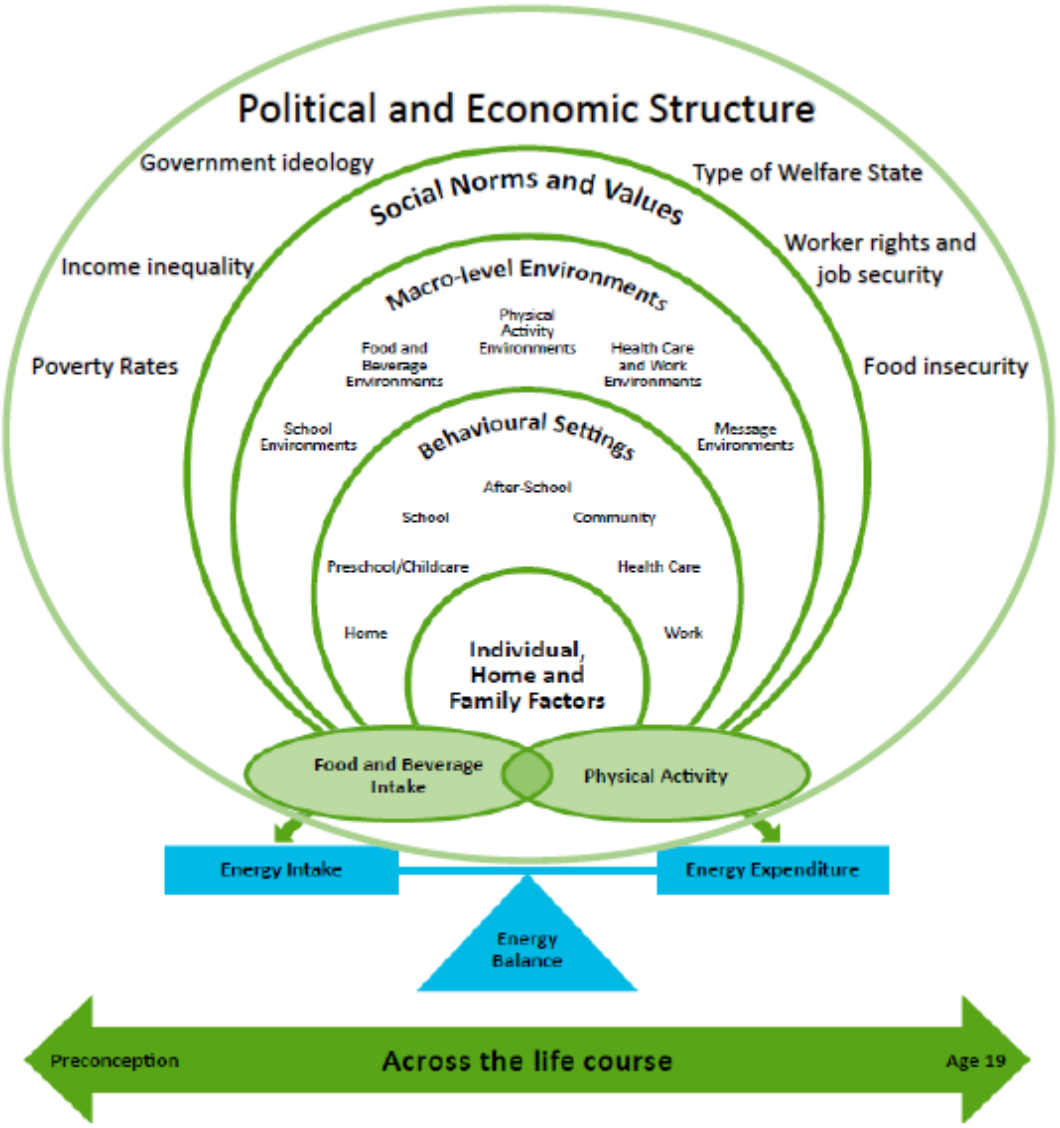
Codebook for *Obesity in Canada* (2011)

Appendix F



Note. Evidence review framework. Adapted from "Addressing obesity in children and youth: evidence to guide action for Ontario", by Public Health Ontario, 2013.

Appendix G

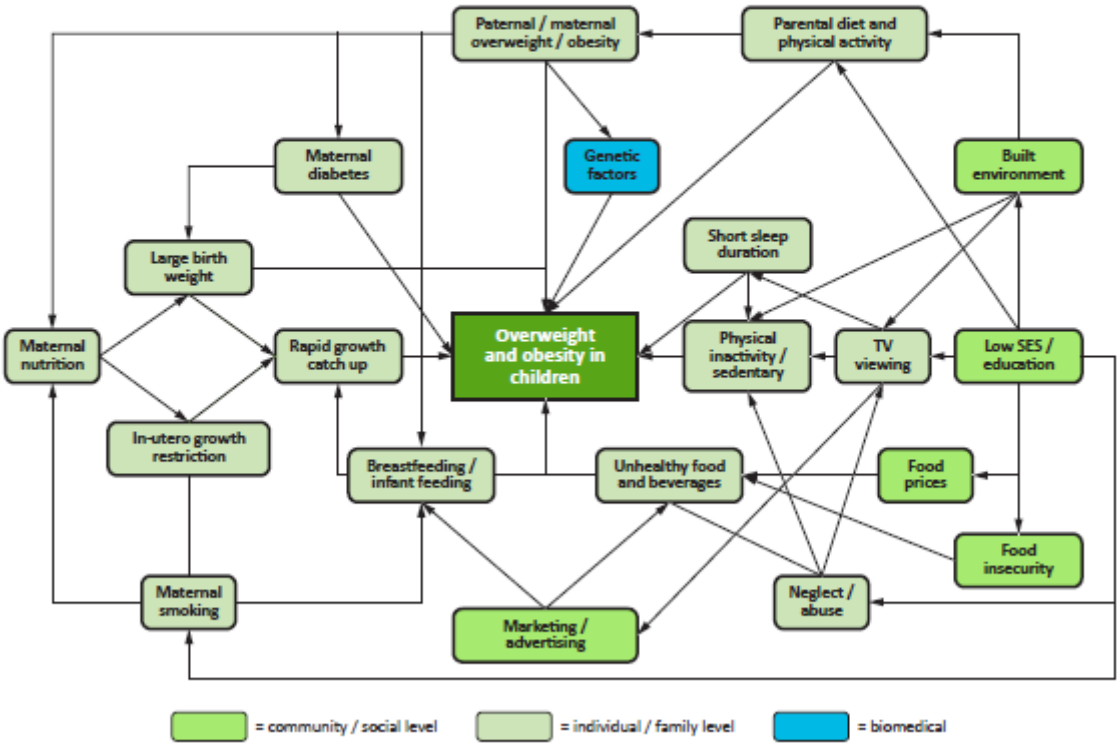


Note. Revised evidence review framework. Adapted from 'Addressing obesity in children and youth: evidence to guide action for Ontario', by Public Health Ontario, 2013.

Appendix H

Causal Factors for Child and Youth Overweight and Obesity

Figure 2.4: Selected Potential Causal Factors for Overweight and Obesity in Children and Youth



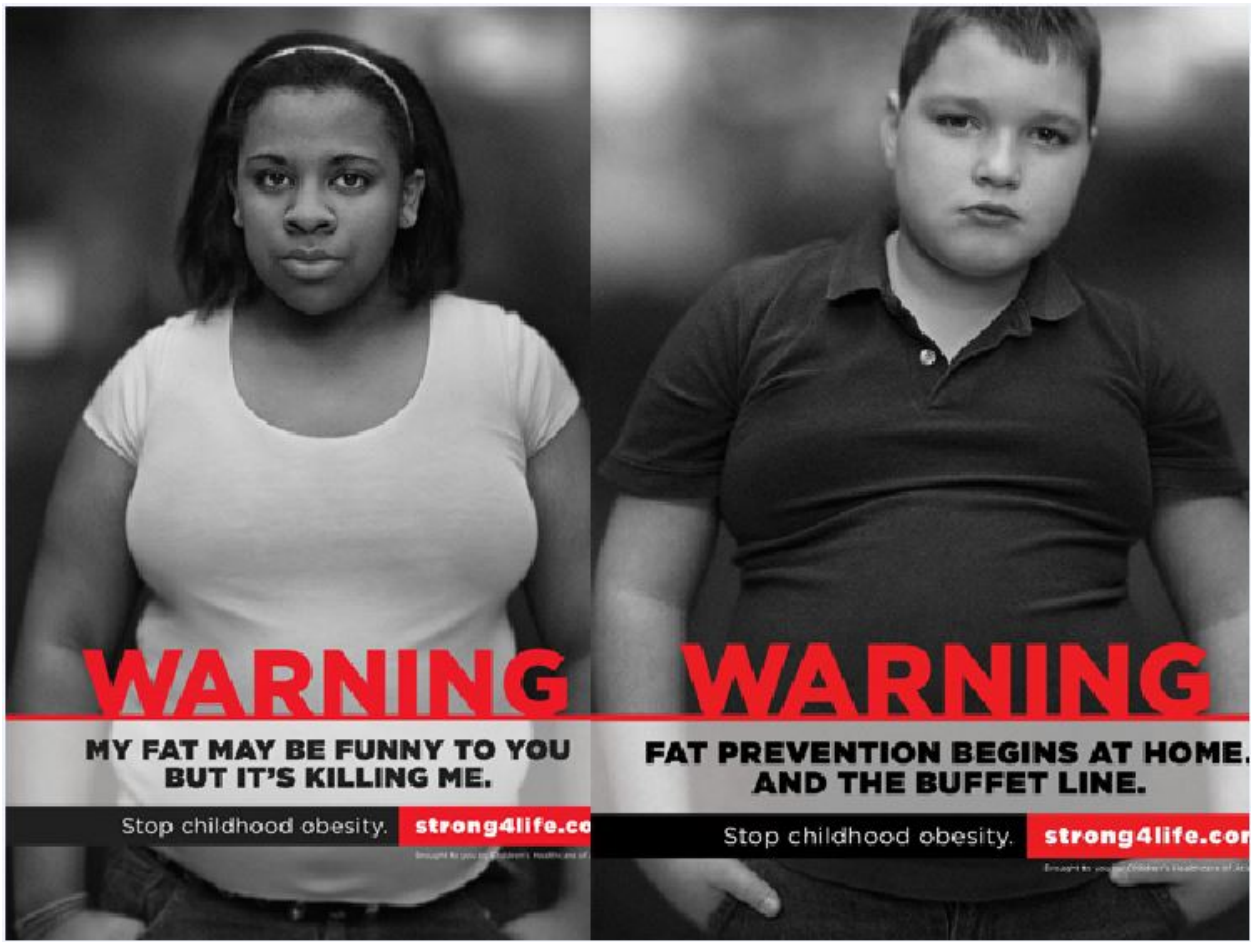
Source: Adapted with permission from: Monasta et al. 2010 (5).

Note. Causal factors for child and youth overweight and obesity. Adapted from 'Addressing obesity in children and youth: evidence to guide action for Ontario', by Public Health Ontario, 2013.

Appendix I

Note. Measure Up campaign poster. Adapted from '303 Measure Up with new national campaign to combat obesity', by Campaign Brief, 2008.

Appendix J



Note. Strong4Life campaign poster. Adapted from 'Strong4Life campaign: Shocking us into caring about childhood obesity', by Janice D'Arcy, 2012.

Appendix K

Note. Swap It Don't Stop It. Adapted from 'Swap It Don't Stop It', by Macleod D., 2011.