

**COPING IN AN OBESOGENIC ENVIRONMENT:
THE PERCEPTIONS OF WOMEN WHO COMPULSIVELY OVEREAT**

by

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Submitted in partial fulfillment of the requirements
for the degree of Master of Arts

at

Dalhousie University
Halifax, Nova Scotia
November 2010

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DALHOUSIE UNIVERSITY
SCHOOL OF HEALTH AND HUMAN PERFORMANCE

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Dated: November 19, 2010

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DALHOUSIE UNIVERSITY

DATE: November 19, 2010

AUTHOR: Ashley Isabel Cooley

TITLE: Coping in an Obesogenic Environment: The Perceptions of Women
who Compulsively Overeat

DEPARTMENT OR SCHOOL: School of Health and Human Performance

DEGREE: MA CONVOCATION: May YEAR: 2011

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Abstract

Individuals who compulsively overeat are a marginalized group within the realm of disordered eating and are underserved by health professionals. Those with weight issues may struggle to find the resources they need to overcome their eating behaviours because they may be seen as “failed dieters” because traditional approaches to weight loss are not necessarily appropriate. This qualitative study explored the experiences of overweight and obese Nova Scotian women who compulsively overeat to better understand environmental determinants influencing their behaviour. Based on social ecological theory, photo-elicitation and semi-structured interviews with six women were used to gather in-depth and contextual information about weight-related motivations and obstacles to appropriate support. This study identified several environmental barriers these women face in maintaining a healthy weight, such as food marketing; however, their lack of coping skills prove that policy changes are necessary to decrease obesity rates.

List of Abbreviations and Symbols Used

©	Copyright
#	Number
ANGELO	Analysis Grid for Environments Linked to Obesity
BED	Binge Eating Disorder
BMI	Body Mass Index
CDHA	Capital District Health Authority
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders Fourth Edition
EDAG	Eating Disorders Action Group
FES	Family Environment Scale
GP	General Practitioner
NEDIC	National Eating Disorders Information Centre
PHAC	Public Health Agency of Canada
WHO	World Health Organization

Glossary

This research investigation used the following definitions:

Binge Eating — Eating, within a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar time period under similar circumstances. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating) is also exhibited (DSM-IV, 1994).

Binge Eating Disorder (BED) — Recurrent episodes of binge eating that occur, on average, at least 2 days a week for a period of 6 months without the regular use of inappropriate compensatory behaviours (e.g., purging, fasting, or excessive exercise). This diagnosis is only considered when an individual reports that, during episodes of overeating, both the subjective sense of impaired control and three of the following associated symptoms listed are present.

1. Eating much more rapidly than normal.
2. Eating until feeling uncomfortably full.
3. Eating large amounts of food when not feeling physically hungry.
4. Eating alone because of being embarrassed by how much one is eating.
5. Feeling disgusted with oneself, depressed, or very guilty after overeating.

BED is not associated with and does not occur exclusively during the course of Anorexia Nervosa or Bulimia Nervosa (DSM-IV, 1994).

Body Mass Index (BMI) — Weight in kilograms divided by the square of the height in meters (kg/m^2). This index of weight-for-height is commonly used in classifying overweight and obesity in adults (WHO, 2009).

Compulsive Overeating — Exhibiting the characteristics of 'binge eating' along with regular or frequent binge eating episodes, or BED with or without a formal diagnosis.

Determinants of Health — Conditions under which individuals live and which determine their health. These include: income and social status, social support networks, education and literacy, employment/working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture (Public Health Agency of Canada, 2001).

Obese — Abnormal or excessive fat accumulation that may impair health. An individual is classified as obese if he/she has a BMI of 30 and above (WHO, 2009).

Obesogenic Environment — Widespread availability of high energy foods in the form of calories, increased sedentary behaviours (e.g., lack of physical activity), and social influences to overeat (Swinburn, Egger, & Raza, 1999).

Overweight — Abnormal or excessive fat accumulation that may impair health. An individual is identified as being overweight if he/she has a BMI between and including 25-29 (WHO, 2009).

Physical Environment — In the built environment, factors relating to the design of communities and transportation systems (Public Health Agency of Canada, 2001).

Social Environment — Includes, but is not limited to, family, peers, community, and workplaces (Public Health Agency of Canada, 2001).

For the purpose of this research investigation, participants will be referred to as 'compulsive overeaters' as opposed to 'binge eaters' or 'persons with binge eating disorder' (BED) because they have not been officially diagnosed with the eating disorder, but have self-reported frequent binge eating episodes.

Acknowledgements

I would like to sincerely acknowledge my research committee, Dr. Sara Kirk (supervisor), Dr. Jacqueline Gahagan, and Dr. Linda Bayers, for their continuous support and expertise in the areas of obesity, disordered eating, health promotion, and research.

I would like to thank the six beautiful and courageous women who participated in this study. You have provided a great deal of knowledge and insights that are sure to help improve future health promotion initiatives.

Thank you to the board and staff at the Self-Help Connection for their support and encouragement, without which I may not have finished my degree.

Finally, thank you to my husband, Tom, for your unconditional love and support.

Chapter 1: Introduction

And just knowing that eating, trying to eat as well as you can, trying to move more. You know, that equation, that old equation of less in and more output works. But how that plays out for people or how they are able to do that based on the environment they are in, based on the financial situation, based on where they live, and their supports, that is a big part of it.

'Lily' (personal communication, October 1, 2009)

Statement of the Problem

Obesity is now considered a significant public health problem (World Health Organization, [WHO], 2010a), with a growing number of research studies exploring its causes and consequences. In particular, the contribution of the obesogenic environment is receiving more research attention, since its pervasive influence makes it difficult for individuals to maintain a healthy weight (Swinburn, Egger, & Raza, 1999). Swinburn, Egger, and Raza (1999) define obesogenic environments as “the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations” (p. 564). Despite the changes in lifestyle that accompany the obesogenic environment (e.g., widespread availability of high energy, heavily processed foods, sedentary behaviours, and social influences), many traditional solutions for obesity continue to be focused at the individual level. For instance, educational messages that extol individuals to “eat less and move more” are not helpful without corresponding awareness of these broader environmental factors

and how they undermine these messages by encouraging the very opposite behaviours (Swinburn et al., 1999).

Maintaining a healthy weight is difficult for many, but becomes even more challenging when issues of compulsive overeating are also apparent. Mostly experienced by women, compulsive overeating behaviours involve deeper psychological issues that are not easily managed by traditional weight management programs alone (Ghiz & Chrisler, 1995). However, women who compulsively overeat are often linked with these types of programs because they are simply seen as having a weight problem, and consequently the underlying cause of their compulsive overeating behaviours may not be fully addressed, making overcoming obstacles to achieving a balanced and healthy lifestyle challenging (Ghiz & Chrisler, 1995). In addition, they may be reluctant to seek help from traditional sources. For instance, their general practitioner may possess negative attitudes toward obese patients or feel professionally unprepared to treat obesity, constituting a barrier to effectively help manage their patient's weight (Burke et al., 1996; Puhl & Heuer, 2009; Kirk & Penney, 2010). Identification of the ways individuals who compulsively overeat perceive and cope with social and physical environmental barriers, that may hinder their ability to address their eating behaviours, have been explored in the hopes of effectively targeting prevention mechanisms for this population. By providing the opportunity to understand the lived experiences of women who compulsively overeat, this research also provides insights into the social and physical environmental

contexts in which their weight issues are situated, and therefore may be central to the development of future research and practice.

Rationale and Significance

The World Health Organization describes obesity as a “global epidemic,” with rates in Canada having doubled over the past 20 years (Douketis, Paradis, Keller & Martineau, 2005). In 2003, 15% of Canadian adults were obese and 33% were considered overweight and at an increased risk of becoming obese (Douketis et al., 2005). These trends are of particular concern to Nova Scotians who have among the highest rates of overweight and obesity in the country, at 25% and 38% respectively (Janssen, Katzmarzyk, Boyce, King, & Pickett, 2004; Kaplan, Huguet, Newsom, McFarland, Lindsa, 2003). Not only have the rates of overweight and obesity continued to increase, particularly among women (affecting roughly 27 percent as opposed to 21 percent of men), the consequent serious health conditions, such as heart disease, stroke, diabetes, and some cancers have as well (Colman, 2000; Campagna et al., 2005; Soliah, Walter, & Antosh, 2007; Statistics Canada, 2008). A combination of these obesity-related health conditions have led to an estimated annual treatment cost of approximately 120 million dollars in Nova Scotia alone (Colman, 2000). In addition, indirect costs of obesity, such as job discrimination, poor body image and self-esteem, psychological and social distress, are also increasing (Colman, 2000).

While it is unknown exactly how many obese individuals compulsively overeat, the majority of individuals who engage in binge eating behaviours are likely to be overweight or obese (Davis et al., 2008). Although some may not exhibit physical signs of having a weight issue, their risk for becoming overweight in the future is greatly increased if the binge eating behaviour persists (Davis et al., 2008).

Relationship Between Obesity and Compulsive Overeating

In a large-scale survey in the United States, Hudson, Hiripi, Pope and Kessler (2007) stated that binge eating disorder (BED) is more prevalent than any other eating disorder and should be considered a public health concern. In addition, the study revealed that eating disorders, particularly BED often coexist with other disorders and is strongly associated with overweight and obesity (Hudson et al., 2007). According to Decaluwé and Braet (2003),

although weight is not a diagnostic criterion of BED, the majority of patients with BED are overweight. Among obese adults seeking help for obesity, binge eating without purging appears to be a prevalent problem with an estimated prevalence rate of 20–50% (p. 404).

Other studies, such as one targeting the prevalence of BED in obese adults seeking weight loss treatment, found that approximately 30% of individuals with a weight problem also exhibit binge eating behaviours and that the majority of these individuals are female (Vamado et. al., 1997).

A report by the American Psychological Association (2010) maintains that BED affects approximately eight percent of the obese population compared to two percent of the general population. If this is extrapolated to obesity rates in

Nova Scotia, this would suggest that roughly five percent of Nova Scotians who are obese are also affected by BED. However, this does not include individuals with other binge eating or compulsive overeating issues that have not been diagnosed. Consequently, we can assume that compulsive overeating behaviours affect a significant proportion of individuals in Nova Scotia and efforts to treat and prevent further weight gain among this population must be increased.

Unfortunately, treatment and prevention of BED has been shown to be difficult since the majority of service providers do not discuss potential disordered eating behaviours with their overweight or obese patients (Hudson, Hiripi, Pope & Kessler, 2007). Hudson, Hiripi, Pope and Kessler (2007) found that very few individuals who struggled with BED sought help for their compulsive overeating behaviours; this could represent the lack of service providers, such as general practitioners assessing their overweight and obese patients for the disorder.

While obesity is known to be a major health issue, particularly among women in Nova Scotia, management and prevention efforts have traditionally been focused at the individual level (Brown & Siahpush, 2007). As an example, Dunn et al. (2010) introduced an educational strategy with the title, "Eat smart, move more, weigh less: A weight management program for adults." This strategy is purely focussed on individual behaviour change with lesson titles such as, "eat fewer calories, eat less fast food, eat out less, and move more" (Dunn et al., 2010). Consequently, without consideration of the broader range of influences that comprise the obesogenic environment, these efforts have not been successful since obesity rates continue to rise. This creates a concern for a

subgroup of the obese population — women with compulsive overeating behaviours, who may be more likely to be largely influenced by their surrounding environment. Therefore, in order to impact obesity rates and improve overall health outcomes, these individuals and the environmental context of their overeating behaviours need to be better understood.

For the purpose of this study, the term ‘compulsive overeating’ will be used to encompass issues of binge eating and binge eating disorder (BED), without the individual who compulsively overeats necessarily having a formal diagnosis of the disorder. Research participants involved in this investigation self-identified as having compulsive overeating issues; however, the majority of research studies target ‘binge eating’ behaviours and individuals with BED. Therefore, the following chapter elaborates on significant findings within this literature.

Guiding Perspective

As a former Board member of the Eating Disorders Action Group (EDAG) and the Education Coordinator with the Self-Help Connection, I have worked with many individuals to set-up and run self-help and support groups for various health issues, including disordered eating. Given my background and past experiences working with individuals with disordered eating behaviours and other sensitive health issues (e.g., depression, bereavement, etc), I had an advantage in developing trusting relationships with participants and several opportunities and venues to publicize this research investigation.

Objective of the Study

This research proposed to explore the lived experiences of overweight and obese women living in the Halifax Regional Municipality of Nova Scotia, Canada, who reported compulsive overeating issues. Particular attention was directed to influences of overeating within the obesogenic environment. Guiding this research were the following questions:

Primary Research Question: What are the social and physical environmental determinants influencing overweight and obese Nova Scotian women to compulsively overeat?

Subsidiary Questions:

- 1) What are the perceived contributors within women's social and physical environments that influence their compulsive overeating?
- 2) What supports do women who compulsively overeat feel should be put in place in order for them to achieve and maintain a healthy weight?

Summary

This chapter provided a basis for understanding the complexity and importance of studying overweight and obese women who compulsively overeat. In addition, the influence of the surrounding social and physical environment (the obesogenic environment) deserves particular attention since its pervasive influence makes it difficult for these women to achieve and maintain healthy eating behaviours. The next chapter outlines these issues in greater detail by

focusing on the obesogenic environment, the different types of overeating exhibited by women, and a discussion on how this relates to health promotion. Chapter three provides the methodological basis for conducting this research investigation; Chapter four reveals the results of interview discussions and photo-elicitation data received by participants within this investigation, while chapter five discusses the implications of these results and concluding statements. References and appendices may be found at the end of the thesis document.

Chapter 2: Review of the Literature

There are many factors that contribute to the health of individuals, such as income and social status, social support networks, education and literacy, employment/working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture (Public Health Agency of Canada [PHAC], 2010). These make up the determinants of health and have the potential to impact individual health outcomes, such as obesity and disordered eating (PHAC, 2010). This section outlines issues related to obesity and compulsive overeating and how these issues are primarily affected by women, and discusses how the surrounding obesogenic environment plays a role in influencing these issues.

Obesity

Although research targeting contributing factors to obesity has been crucial to the advancement of this field, a focus purely on individual-based approaches to weight change is no longer appropriate (Brown & Siahpush, 2007). For example, Brown and Siahpush (2007) found that individuals with less education and lower incomes are more likely to be overweight or obese than their counterparts. However, they also note that other population groups sometimes produce contradicting results — for instance, poor personal health practices, such as smoking and lack of time spent being physically active, actually led to a

decrease in obesity (Brown & Siahpush, 2007). These inconsistencies in identifying risk factors for obesity could be attributed to focusing on specific health determinants among individuals as opposed to taking a broader, health promotion approach (Brown & Siahpush, 2007). Therefore, an awareness of broader social and physical environmental influences, for example, may be essential to ultimately decrease obesity rates (Boehmer, Hoehner, Deshpande, Ramirez, & Brownson, 2007).

Obesogenic Environment

The contribution of the obesogenic environment, which includes the availability of high energy foods, increased sedentary behaviours, and social influences, makes it difficult for many individuals to overcome barriers to maintaining a healthy weight (Swinburn, Egger, & Raza, 1999; Ball & Crawford, 2006). While society, and in some instances, the social environment (i.e., family, friends) encourage individuals to maintain a slender body, there is constant exposure to opportunities to overeat, such as fast food restaurants for convenience in busy, fast-paced lifestyles (Irving & Neumark-Sztainer, 2002). Research indicates that a combination of these conflicting messages can lead to increased rates of obesity, particularly among women (Irving & Neumark-Sztainer, 2002).

The media is just one example of providing conflicting messages to a target population, and can either promote or inhibit a healthy lifestyle (Irving & Neumark-Sztainer, 2002). For the most part, the media promotes an unrealistic

body image while simultaneously emphasizing unhealthy eating practices (Irving & Neumark-Sztainer, 2002). One study found that ideal images of women portrayed through media advertisements, particularly in terms of dieting and weight loss, “promote the idea that body size and shape is flexible and easy to change” (Monro & Huon, 2006, p. 375). When women were exposed to idealized images for this study, results indicated that those who were critical and overly objective of their appearances were more likely to monitor their food intake. This creates increased opportunities for these women to scrutinize their appearances, which, in turn can lead to anxiety and a desire to control the way they look (Monro & Huon, 2006).

The surrounding physical environment is also known to encourage unhealthy eating behaviours among individuals, particularly women (Popkin, Duffey, & Gordon-Larsen, 2005). As physical and constructed environments change over time, so do dietary patterns, such as “the foods we eat, the location of eating, the number of eating events, and even the composition of the persons at each eating event” (Popkin et al., 2005, ¶3). Similarly, physical activity patterns have also shifted over the past several decades, specifically in regards to leisure and travel, (i.e., traveling by car instead of walking or biking, or watching television as opposed to engaging in an activity requiring physical exertion). These changes have had a significant impact on the rise of obesity by allowing for readily accessed fast-foods that increase energy intake and technological advances that lead to decreases in physical activity (Popkin et al., 2005).

The obesogenic environment is complex and difficult to characterize. Therefore, the use of a framework to conceptualize and organize it, such as the *Analysis Grid for Environments Linked to Obesity* (ANGELO) is helpful to provide a basis for understanding how it can affect individuals.

The ANGELO Framework

The Analysis Grid for Environments Linked to Obesity, or ANGELO framework is “a conceptual model for understanding the obesogenicity of environments and a practical tool for prioritizing environmental elements for research and intervention” (Swinburn, Egger, & Raza, 1999, p. 563). The framework identifies four types of environments — physical, economic, political, and sociocultural, and encompasses two sizes of environments — microenvironmental settings and macroenvironmental sectors. A microenvironmental setting is considered a place where individuals gather, usually with intentions of involving food and/or physical activity. These settings are typically smaller in size and can be heavily influenced by larger macroenvironmental sectors. A macroenvironmental sector is “a group of industries, services, or supporting infrastructure which influence the food eaten and/or physical activity carried out within the various settings” (Swinburn et al., 1999, p.565). These sectors are quite complex due to their size and interconnecting layers of influence (Swinburn et al., 1999). Since this research targeted the lived experiences of women who identified and interpreted their

surrounding environmental influences, the two different sizes of environments were the focus of this investigation.

While efforts to overcome the obesity epidemic have been successful among some individuals, it may be more difficult to conquer for a subgroup of this population — those with compulsive overeating issues (Ghiz & Chrisler, 1995; National Institute of Diabetes and Digestive and Kidney Disease, 2009). The following section describes issues surrounding binge eating disorder and explores the different types of overeating that may be important to the obesogenic environment.

Binge Eating Disorder

Binge eating disorder (BED) is characterized by compulsive overeating in which an individual will consume large amounts of food while feeling out of control and powerless to stop (National Eating Disorder Information Centre, 2008a). While most people will argue that they experience episodes of binge eating, it does not mean that they have BED to the extent that makes it a clinically significant issue. Since its recognition in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), BED has become the centre of various research strategies to determine whether or not it deserves inclusion as a formal eating disorder (Davis et al., 2008). One study investigated the reactions of individuals with BED as they engaged in cycles of binge eating and found that participants regularly expressed strong negative feelings, such as disgust with themselves, guilt, and embarrassment for their

eating behaviours (Davis et al., 2008). Although individuals who are overweight or obese may display similar feelings about their own eating behaviours, it becomes particularly problematic for individuals with BED when seeking interventions and weight management programs because these feelings are often interpreted as natural emotional reactions to fluctuations in weight or weight gain (Davis et al., 2008). Consequently, traditional weight management programs are not targeting the root cause of the weight gain among this often overlooked population. Further research is needed to provide insights regarding recurrent binge eating behaviours when such strong negative feelings persist once the episode has ended.

Regardless of being diagnosed with BED, individuals who compulsively overeat will display signs of one or more of three types of overeating: restraint, emotional, and external (van Strien, Frijters, Bergers, & Defares, 1986). The following section provides a description of these overeating types and the theories linked to their existence.

Types of Overeating

Given that “very little is actually known about the mechanisms impelling the binge eating in BED,” (Davis et al., 2008, p.244) dietary restraint, emotional eating, and external cues are among the most frequently described causes of this disordered eating behaviour among overweight and obese individuals (van Strien, Frijters, Bergers, & Defares, 1986). Three overarching theories — restraint theory, psychosomatic theory, and externality theory have subsequently

been identified to explain the type of eating behaviour experienced by individuals who binge eat (van Strien et al., 1986). Although both overeating and undereating can be attributed to emotional, external, and particularly restrained eating behaviours, for the purpose of this investigation, specific behaviours exhibited by individuals who binge eat will be explored.

Restraint theory attributes weight gain to restricting food intake within a certain amount of time that will eventually lead to cycles of binge eating once the individual gives in to food cravings (Davis et al., 2008). A seminal and well-documented study on restrained eating was researched by Herman and Mack (1975); in the “milkshake” study, participants were provided a preliminary taste of either 0, 1, or 2 milkshakes, followed by a final (separate) taste of ice cream, while weight concerns of each participant were documented by a questionnaire. Researchers hypothesized that differences would exist between highly-restrained and non-restrained participants depending upon the number of milkshakes they would be asked to consume during the “preload”; however, in general, participants would demonstrate less ice cream consumption if preceded by a greater number of milkshakes. The results of this study found that, as predicted, participants who did not exhibit restrained eating behaviours regulated their food intake, in that a larger preload of milkshakes led to decreased subsequent ice cream consumption. However, once restrained eating behaviours were abandoned by highly-restrained participants (by consumption of the preload), an “all-or-nothing” thinking seemed to occur in that they continued to eat vast amounts of ice cream, even after having consumed two milkshakes during the

preload (Herman & Mack, 1975). More detailed information is needed as to why some individuals “decide” to consume significant amounts of food after attempts to restrict dietary intake.

Psychosomatic theory, which supports claims that binge eating is a result of emotions which can lead to confusion of states of satiety and hunger, explains another determining factor for binge eating behaviours (Masheb & Grilo, 2006). By attributing weight gain to emotional eating, this theory also suggests that consuming food is a means for attempting to improve mood, which is supported by three significant findings within Stein et al.'s (2007) study. First, by engaging 33 participants with BED in a series of questions six times a day, researchers were able to identify the primary characteristics of a binge, such as location, its relation to mood and hunger, and the perceived cause of a binge eating episode (Stein et al., 2007). Another finding indicated that participants attributed their binge eating to their emotions more so than actual hunger, and negative moods were predominantly highest before and after episodes of binge eating. Therefore, in an attempt to improve mood, participants would in fact exacerbate any negative feelings once the binge eating episode would subside (Stein et al., 2007). Lastly, in the majority of cases, participants in this study were able to identify when a binge episode would occur; however, they continued to report a sense of “loss of control” during the episode (Stein et al., 2007). Clinical research indicates that individuals with BED will often be able to predict when a binge episode will occur so that they can plan to be alone, such as in their car or at night when family members have gone to sleep, but will also feel unable to

control the binge while it occurs. Stein, et al (2007) suggest that further research is needed to “understand what it means to plan a binge, whether the experience of loss of control differs when binges are planned, and the role of ceasing to even try to prevent a binge in loss of control” (p. 202).

Finally, Davis, et al. (2008) found that individuals with BED are much more likely to overeat in response to external/environmental cues than both obese participants who do not engage in binge eating episodes and normal-weight control participants. Even though obese participants (with or without BED) are more likely to eat regardless of physiological needs – the palatability, availability, and convenience of food greatly heightens their desire to eat, predominantly among individuals with BED (Davis et al., 2008). In addition, research conducted by Cornell University on portion distortion indicated that participants in a study were more likely to overeat if the serving size of a bowl was larger, particularly when it came to unhealthy food (Cornell University, 2010). Similarly, if smaller size bowls were provided, participants ate less unhealthy food (Cornell University, 2010). This is supported by externality theory which suggests that individuals will eat in response to external food cues, regardless of satiety (Masheb & Grilo, 2006). Insight as to why this would occur specifically among individuals with BED has yet to be established. However, exploring how women who compulsively overeat are influenced by the surrounding obesogenic environment is useful in terms of bringing future research on the psychology of food forward among an overlooked and underserved population.

While evidence suggests that overeating behaviours can be attributed to restraint, emotional, and external factors, for individuals with BED, these factors are accentuated to a greater degree, compared to those without these disordered eating behaviours, by a surrounding environment that promotes calorie-dense foods and sedentary lifestyles (Swinburn, Egger, & Raza, 1999). An example of a social environment that has the potential to influence individuals to engage in binge eating behaviours is the family environment. Hodges, Cochrane, and Brewerton (1998) conducted one of the few studies involving the relationship between individuals with BED and their family. They discovered various determinants that may lead to binge eating behaviours by using the Family Environment Scale (FES), which assesses the interpersonal relationships and overall social environment within the family. The FES is a self-report questionnaire including 90 true or false questions on the various aspects of family functioning, such as cohesiveness, independence, intellectual-cultural orientation, and so on (Hodges et al., 1998). Results of this study indicated that individuals with BED had a significantly low sense of family cohesion and encouragement to express emotions. Similarly, these individuals reported a greater sense of isolation and sedentary behaviours than control groups (Hodges et al., 1998).

Although very little is known about the underlying causes of binge eating, the outlined research studies provide a basis for which to begin exploring the lived experiences of individuals who compulsively overeat as they attempt to negotiate the obesogenic environment. Therefore, the purpose of this research

was to explore the social and physical environmental determinants influencing overweight and obese women to compulsively overeat in order to effectively target and inform future prevention and treatment programs for this population. The following section describes the complexity of treating obesity when compulsive overeating issues are present.

Sources of Support

Within their systematic review of weight bias in various domains of living, such as employment, education, and health care settings, Puhl and Heuer (2009) revealed that health care professionals, including physicians, nurses, and dietitians, “endorse stereotypical assumptions about obese patients and attribute obesity to blameworthy causes” (p. 944). This was found to compromise care for these patients, particularly among physicians who believed that obesity treatment and/or prevention of further weight gain is futile (Puhl & Heuer, 2009). Situations like these often result in overweight or obese individuals, particularly women, forgoing seeking help from health care providers. As a result, increases in psychological and physical health consequences, such as low self-esteem, distorted body image, depression, and disordered eating behaviours occur. For example, binge eating behaviours among overweight and obese women who internalize weight-based stereotypes and appearance-based teasing are becoming more and more apparent. This has been found to be a result of psychological distress from the stigmatization of overweight and obesity (Puhl & Heuer, 2009). Therefore, the obesogenic environment and its effects among high

risk populations, such as women engaging in binge eating behaviours, should be more fully explored (Puhl & Heuer, 2009; Boehmer, Hoehner, Deshpande, Ramirez, & Brownson, 2007).

Since the majority of individuals with BED also exhibit a problem with weight, experts in both the obesity and eating disorder fields differ with respect to treatment options (American Psychological Association [APA], 2010). While eating disorder experts believe that treatment should focus on reducing or eliminating binge eating behaviours as well as other psychological problems such as depression, obesity experts contend that doing so does not target the main issue, which in their view is the individual's weight (APA, 2010). These differences are not only problematic for those struggling with weight and binge eating issues, but to researchers involved in the advancement of this field. With such complexity in dealing with these issues, it is unclear as to which method of treatment is best (APA, 2010).

While it is important to understand the effects of binge eating among overweight and obese individuals, it is evident that there is a strong debate as to how to treat issues associated with them. However, this research investigation was based on the understanding that these issues are severe and complex while acknowledging that there are various health determinants with the potential to impact these individuals. Therefore, the following section explores some of these determinants while giving specific recognition to the importance of involving women in this particular investigation.

Determinants of Health and the Importance of Exploring Gender

As previously mentioned, there are several factors determining the health of individuals, such as income and social status, social support networks, education and literacy, employment/working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, biology and genetic endowment, health services, gender, and culture. (PHAC, 2010; WHO, 2010b). These determinants, which have the potential to affect health outcomes, are all connected; yet their impact on an individual's health depends on the context of their lives. Therefore, "blaming individuals for having poor health or crediting them for good health is inappropriate [and] individuals are unlikely to be able to directly control many of the determinants of health" (WHO, 2010a, ¶2).

While it is recognized that each determinant of health can affect a person's weight and eating behaviours, this research investigation involved specific efforts to study women. The concept of gender, unlike biological sex, refers to the socially regulated roles and identities that differ from men and women and which may differentially impact men's and women's health (WHO, 2010a). This may also be true in the case of problematic relationships with food choices and eating habits.

Allen and Sachs (2007) reported that women's identities are often associated with their complicated and problematic relationship with food. Similarly, women will "seek emotional heights, intensity, love and thrills from food" (Allen & Sachs, 2007, p. 2) and that the rise in disordered eating

behaviours (i.e., dieting, obesity, anorexia, binge eating) is the source of confusing messages that women should strive for thinness, yet are encouraged to overindulge in high caloric food (Allen & Sachs, 2007). In addition, food purchasing and preparation is often the responsibility of women in the family home. Therefore, with women acting as the “gatekeepers who control the flow of food into their households” (Allen & Sachs, p 2), food advertisements and providers aim to reach these women with their powerful and persuasive messages to purchase their products (Allen & Sachs). While an increased number of research studies in the realm of obesity continue to link body image dissatisfaction and the pursuit of thinness among women to a ‘normal’ female experience (Polivy & Herman, 1987), resulting prevention mechanisms have received very little attention.

In addition to the roles women have around food in the household, the National Eating Disorders Information Centre (NEDIC, 2008b) states that the majority of individuals diagnosed with BED are women and that their lifetime prevalence rate of the disorder is 3.5%, compared to 2% among men.

Women are also at an increased risk of being influenced by surrounding social and physical environmental factors because they associate, and are encouraged to associate, food with emotions, influencing them to eat whether they are feeling happy, sad, or somewhere in between (Soliah, Walter, & Antosh, 2007). Consequent overindulgence of food consumption often leads to feelings of guilt, shame, and discontentment — resulting from social messages that equate beauty with thinness (Mooney & DeTore, 1994; Soliah et al., 2007). This further

perpetuates the problem by stigmatizing overweight and obese women as lazy, incompetent, unmotivated, and lacking self-discipline (Puhl & Heuer, 2009). It is for these reasons that focusing only on women for this study will help to provide insight into the potential environmental influences of their compulsive overeating behaviour.

Summary

This chapter has provided a basic understanding of the issues surrounding obesity and compulsive overeating in the current research literature. By expanding on the types of overeating exhibited by many overweight and obese individuals, we can begin to understand the areas in which their weight issues are situated. Similarly, the discussion on the importance of exploring women suggests that this research investigation is timely and necessary. The section detailing the contribution of the obesogenic environment suggests that these issues are perpetuated in an environment that makes it difficult to maintain a healthy weight, and consequently the ANGELO framework was described to help guide those discussions.

Although the review of the literature suggests there exists a problem relating to the contribution of the obesogenic environment among overweight and obese women who compulsively overeat, knowledge surrounding the specific environmental influences that perpetuate compulsive overeating behaviours among this population is lacking. Therefore, this research investigation sought to

identify and understand these influences in order to inform health promotion policy, research, and programming among this often overlooked population.

Chapter 3: Methodology

This research proposed to obtain insight into the lived experiences of overweight or obese women who compulsively overeat by gaining knowledge of specific environmental motivators to overeat and obstacles to overcome overeating behaviours. Due to the limited research in this area and the nature of this investigation, a constructivist paradigm was applied. According to Creswell (2003), constructivist paradigms “hold that individuals seek understanding of the world in which they live and work” (p.8), whereas positivist paradigms maintain that only a single objective truth exists. Therefore, in regards to this research, the constructivist paradigm holds that participants will develop subjective meanings of their own experiences relating to how their surrounding environment influences them to compulsively overeat (Creswell, 2003).

This chapter provides an overview and discussion of the qualitative methodologies and theoretical framework that have been employed during this investigation, as well as the steps taken to ensure trustworthiness and rigour of the research process. After a review of this process, the last section of this chapter discusses the ethical issues that have been taken into consideration for this investigation, in addition to exploring potential venues to disseminate the results.

Overview and Justification of Qualitative Methodologies

Qualitative research seeks to understand individual behaviours and the context of those behaviours (Denzin & Lincoln, 2005). “This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (Denzin & Lincoln, 2005, p. 3). In addition, qualitative techniques, such as interviews and photos (which were used during this investigation), “allow researchers to share in the understandings and perceptions of others and to explore how people structure and give meaning to their daily lives” (Berg, 1995, p. 7). Therefore, this research investigation used qualitative methodologies in an effort to understand the lived experiences of overweight and obese women who compulsively overeat.

As outlined in the review of the literature, there are a number of research studies currently targeting binge eating and binge eating disorder (BED) — specifically in terms of why some individuals engage in overeating behaviours and the characteristics of individuals bingeing on food. The majority of these studies are quantitative in nature, providing useful information on potential causes of overeating; however, very little is known about the lived experiences of individuals who compulsively overeat and how the surrounding social and physical environment perpetuates these behaviours. By engaging overweight and obese women who compulsively overeat in one-on-one interviews through a qualitative design, the researcher was successful in gathering a more in-depth understanding of their experiences and reasons for overeating, which could

inform future research and prevention programming for this often overlooked population.

The ideas that arose from discussions with participants were analyzed and grouped using thematic analysis, which focuses on identifiable themes and patterns of behaviour (Aronson, 1994; Boyatzis, 1998). The themes that have been identified derived from patterns found in the information provided through discussions with participants, such as descriptions of their eating behaviours, interpretations of their social and physical environments, and how those factors have affected their eating behaviours. Therefore, using thematic analysis has helped to interpret and provide insight into the lived experience of overweight and obese women who compulsively overeat.

Overview of Theoretical Framework

Health Promotion theories are derived from various disciplines, which reflects diversity in regards to the behaviour of individuals and groups (Nutbeam & Harris, 2004). With respect to this study, theory provided a lens in which to explain factors influencing why overweight and obese women compulsively overeat, the relationship between these factors (i.e., the social and physical environment and compulsive overeating), and the conditions under which these relationships do or do not occur. Over the years, health promotion theories have been modified from focusing on individual behaviour, to recognizing “the need to influence and change a broad range of social, economic and environmental

factors that influence health alongside individual behaviour choices” (Nutbeam & Harris, p.7).

With a lack of research on the relationship between the social and physical environment and compulsive overeating among overweight and obese individuals, there has yet to be a distinct theoretical framework guiding this kind of research. However, theories related to the three types of overeating behaviours identified in the literature (e.g., restraint, psychosomatic, and externality theories) have merit in regards to determining why some individuals compulsively overeat. Therefore, a theory encompassing the surrounding environmental influences provided a useful framework for this investigation.

Two theoretical frameworks have been identified with acknowledging the surrounding environment — social cognitive theory and social ecological theory. Social cognitive theory is “built on an understanding of the interaction that occurs between an individual and their environment” (Nutbeam & Harris, 2004, p 19), whereas social ecological theory “assumes that our health is shaped by many environmental subsystems, our family, community, workplace,... the physical world, and our web of social relationships” (Alcalay & Bell, 2000, p. 23). Although social cognitive theory recognizes the environment, it places a greater focus on the individual, and therefore does not depict a strong enough framework for this investigation. Social ecological theory, on the other hand, places more weight on environmental influences than social cognitive theory, and is therefore more appropriate since this study focuses on the broader social and physical environmental determinants of compulsive overeating. Social ecological theory

“proposes that the physical and social environments influence obesity through their effect on diet and physical activity behaviors” (Boehmer, Hoehner, Deshpande, Ramirez, & Brownson, 2007, p. 968). In addition, the Ottawa Charter for Health Promotion identified that “the inextricable links between people and their environment constitutes the basis for a socio-ecological approach to health” (Public Health Agency of Canada, 2001, create supportive environments section).

In their review of obesogenic environments, Swinburn, Egger & Raza (1999) presented an ecological model for understanding obesity, which illustrates that biology, individual behaviours, and the environment all influence obesity. Of these, biological and behavioural influences have been extensively researched, while environmental factors have not been given the same level of attention. Furthermore, environmental influences on compulsive overeating among overweight and obese individuals have been given even less attention. Building on ecological approaches and enabling environments to be classified, the ANGELO framework, which is “a conceptual model for understanding the obesogenicity of environments and a practical tool for prioritizing environmental elements for research and intervention,” (Swinburn et al., 1999, p. 563) provides a basis for this understanding.

Ensuring Trustworthiness and Rigour

Patton (2002) states that “the credibility of qualitative inquiry depends on three distinct but related inquiry elements: rigorous methods, the credibility of the researcher, and a philosophical belief in the value of qualitative inquiry” (p. 552).

While previous sections have demonstrated the credibility of the researcher and value in qualitative research, the following section provides an outline of the methods used during this investigation in order to reach trustworthiness and rigorous research expectations.

Pilot Test

A pilot test was conducted with an individual who did not fully qualify for this research investigation. Once diagnosed with binge eating disorder (BED), she is now in the recovery stages of her disordered eating behaviours and at a healthy body weight. This process provided a great deal of insight into what to expect during the investigation with actual participants and the woman involved in this pilot test was able to confirm that the interview questions and discussions surrounding the photo-elicitation data collection method would gather useful information. This process also ensured that the researcher was not using any biased or demeaning language during any stage of contact with participants.

Ensuring Adequacy and Appropriateness of Data

Guest, Bunce, and Johnson (2006) found that data saturation is usually achieved after analyzing 12 interviews. However, the scope and feasibility of a Master's level thesis project and knowledge gained through work and volunteer experiences led the researcher to believe that the likelihood of reaching a larger number of individuals may be limited. Therefore, this research focused on the richness of data while selecting six individual interviews as the primary source of

data collection. In addition, pictures provided by the six participants as part of the photo-elicitation data collection method helped to supplement the individual interviews, and ultimately expanded on the rich data derived from these interviews.

After completing the first few interviews, it was evident that a pattern had already begun to form among each participant's interview and photo-related discussions. Since the subsequent interviews merely added to these discussions, the researcher believed that data saturation was met with the six participants involved in this investigation.

Member Checking

Member checking was used to help establish validity within this qualitative research investigation. Member checking involves bringing the data back to participants so that they can confirm the accuracy and credibility of the information (Creswell & Miller, 2000).

Lincoln and Guba (as cited in Creswell & Miller, 2000) contend that member checking is "the most crucial technique for establishing credibility" (Creswell & Miller, 2000, p. 4). Therefore, once each interview was transcribed during this investigation, a copy of their transcript was mailed to each participant. This allowed each participant to review the discussion we had during the one-on-one interview to ensure accuracy. Participants were given the opportunity to add, change, or delete any information provided during the interview as a result of reviewing their individual transcripts; however, no alterations were requested.

Upon completion of the data analysis process — in which direct quotations, interview summaries, and themes generated from all interviews were provided — participants were given a copy and were asked the following questions: “Does this accurately capture the discussions we had during the interview? Can you think of any other determinants or issues we may have missed?” By asking these questions and reviewing the analyzed data, participants completed a form of “member-checking” (Patton, 2002).

Participant Support

In order to provide support and benefit to participants while they were involved in this research investigation, a list of phone numbers for doctors, nutritionists, counselors and psychologists, along with supporting resources offering self-help and support groups, such as the Eating Disorders Action Group (EDAG) and the Self-Help Connection, were provided at the time of the interview (see Appendix A for a list of these resources). Information and resources on how to start a self-help group for compulsive overeating was also made available to participants as a method of continuing support once their participation in this research was completed. In addition, the counselor currently working at EDAG offered to provide one free phone call, email, or one-on-one session with the participants for additional support if needed. It is believed a few participants took advantage of this resource, as they seemed very interested when they learned about it.

Due to the sensitive nature of the research topic, emergency contact numbers, including the Mental Health Mobile Crisis Team and Metro Help Line were on hand during the time of each interview to provide immediate support in the event that a participant showed any sign of distress. Participants were also financially compensated for their time in the study — each were given \$10 for completing the initial task of taking pictures for the photo-elicitation data collection technique and \$15 for participating in the individual interview. This money was provided to participants upon their arrival to the initial meeting and individual interview, respectively, so that if they chose to leave before the data collection process ended, they were still awarded the money for their participation up to that point.

Peer Debriefing

Peer debriefing was used since the researcher confided in colleagues through work and volunteer experiences and drew on their understanding and knowledge of qualitative methodologies, as well as compulsive overeating and obesity issues. This process helped to minimize any potential bias held by the researcher and enhanced reliability of the research findings.

Overview of the Research Process

The following section describes the nature for selecting participants to be involved in this investigation, the data collection process, and data management tools.

Participant Selection

The idea behind selecting participants for this study came from the researcher's involvement with the Eating Disorders Action Group (EDAG) which is a Halifax-based organization that works with individuals with disordered eating behaviours and their families. Upon discussions with the Executive Director of EDAG, women from the Capital District Health Authority (CDHA), particularly those over the age of 18 who compulsively overeat and have a weight problem, are the cohort in highest demand of support services within the organization for their eating behaviours. Therefore, participants involved in this study included overweight and obese women (over the age of 18) living in the CDHA of Nova Scotia who self-identified as individuals who compulsively overeat.

Posters advertising this research study were placed in various locations at Dalhousie University, Saint Mary's University, and Mount Saint Vincent University, offices of supporting organizations (EDAG and The Self-Help Connection), and circulated among individuals working with this target population (Psychologists and self-help groups, such as Overeaters Anonymous) (see Appendix B for a copy of the recruitment poster). Although it was believed a sufficient number of participants would come from any of these sources, five out of six participants were recruited using 'Kijiji' (2010). 'Kijiji' (2010) is a free, local classifieds website where people can post or view classified and personal advertisements. Once the recruitment poster was uploaded to the site, the researcher was contacted by the remainder of the participants for this study. By gathering information from women of various walks of life and from different

communities within the Capital District, the data collected for this research was rich and inclusive. The following criteria were used to recruit participants for this investigation:

- 1) Female
- 2) 18 years of age or older
- 3) Speak English
- 4) Resident of Nova Scotia
- 5) Self-identified compulsive overeater
- 6) Self-identified as overweight or obese

Because of the researcher's work experience at the Self-Help Connection and volunteering with EDAG, convenience and snowball sampling strategies were drawn upon to gather a total of six participants. In order to reduce any potential bias between myself as the researcher and any potential participants that I may have been in contact with through work or volunteer activities, participants were provided with a consent form outlining the purpose of the study, their expectations, as well as confidentiality and anonymity measures to be used during the study (see Appendix C for a copy of the consent form). Participants were also informed that their involvement in the study would be completely voluntary and they were able to leave at any time without repercussions if they felt uncomfortable or simply decided they no longer want to be involved.

Data Collection Process

Multiple sources of data were used to gain insight into the lived experiences of overweight and obese women who compulsively overeat. The

primary data collection method involved gathering in-depth and contextual information through semi-structured one-on-one interviews with each participant. These interviews were conducted in a safe, private setting within community organizations, including EDAG and the Self-Help Connection, and research office space provided through the School of Health Administration at Dalhousie University. By conducting a face-to-face interview, the researcher was able to develop rapport with participants that helped when discussing a potentially sensitive topic (McKenzie & Smeltzer, 2007), such as compulsive overeating. Evidence suggests that the rate of participation for this type of interview is generally high (McKenzie & Smeltzer, 2007). This was apparent when a total of six participants contacted the researcher to participate in this study.

Prior to each one-on-one interview, the researcher met with participants individually to provide them with more detailed information on the purpose of the study and outlined exactly how they were expected to be involved. In doing so, the researcher was able to visually assess whether or not the potential participant had a weight problem. No measurements were taken, nor were participants asked outright if they were overweight or obese in order to be respectful of their privacy because of the potential sensitivity it might cause. To the researcher's knowledge, each of the six participants involved in the study were in fact overweight or obese. However, if an individual was willing to participate in the study because she exhibited compulsive overeating behaviours but did not seem to have a weight problem, she would still have been invited to

participate because her eating behaviours put her at risk of becoming overweight or obese in the future (Davis et al., 2008).

During this initial meeting with participants, they were asked to take part in a photo-elicitation data collection technique and provided with a disposable camera so that they could take photos of items or scenarios within their social and physical environments that they believed influenced their compulsive overeating behaviour. Participants were also provided with a pre-paid envelope and asked to return the camera to the researcher by mail, after which two copies of the set of photos were developed. One copy was kept for the purpose of the study (data analysis) and the second copy was provided to participants at the time of the individual interview. This method of data collection is based on the idea of using photographs during a research interview to help guide discussions (Harper, 2002) and was also used during the data analysis process. Harper (2002) suggests that using images to describe a scenario or object helps to evoke deeper meanings and elicits more information as opposed to written text. Consent forms were also provided to participants at this time to give to anyone who they wanted to include in a photo for the purpose of this research, which would ensure all direct and indirect participants were aware of the use of the photos (see Appendix D for photo-elicitation instructions and Appendix E for a copy of the photo consent form).

Prior to commencing each individual interview, participants completed a brief demographic questionnaire (Appendix F) which provided information on their age, marital status, the number of people living in their household, as well

as the type of environment where they worked and lived. Though more information could have provided useful information as it related to participant's circumstances (for example, including information on socioeconomic status), the focus of this research was primarily targeting environmental influences. Therefore, this information simply helped to gather more detailed information about participants. (See Appendix G for a copy of the interview guide).

Data Management

Discussions with participants during the individual interviews were documented using an audiotape recorder. These data were transcribed word for word and kept in a locked filing cabinet except when being analyzed. The interview data and photo-elicitation pictures provided by each participant were then entered into Atlas-ti, a software program that facilitates data management and analysis for larger bodies of unstructured textual, graphical, audio, and video data (Atlas.ti Scientific Software Development, 2009). The coding and analysis technique employed during this investigation followed the ANGELO framework which was previously described.

The codes used to organize patterns of information among participants included differences between micro-environmental settings (i.e., workplaces, neighbourhoods, local food retailers) and macro-environmental sectors (i.e., media, food marketing, sports and leisure industry), as well as physical, economic, political, and sociocultural environment types — provided by the ANGELO framework (Swinburn, Egger & Raza, 1999). Therefore, the data were

analyzed using an inductive process in which emerging themes, patterns, differences, and commonalities were sought in the words of the participant, thereby remaining true to their lived experience and ensuring the quality of the research. Though the micro-environmental settings and macro-environmental sectors provided by the ANGELO framework were identified prior to conducting interviews with each participant, in no way were these ideas forced upon the participants. Once the data was collected, the researcher was able to use this framework to categorize the ideas that arose from discussions with each participant, and in the majority of cases, this worked very well. However, in some instances, participant's discussion did not necessarily fit into one of the categories outlined by the framework — for instance, participant's views of society and social influences, and coping in the obesogenic environment). To overcome this, the researcher either identified these other categories separately (i.e., coping in the obesogenic environment), and discussions regarding societal views and social influences were embedded into the ANGELO framework categories (for example, Lily's views on how society view individuals who are overweight or obese, and how Samantha's husband influences her to compulsively overeat when they are at home). Details on these discussions can be viewed in the next chapter.

The ideas that arose from the data collected during the interviews were then encoded using thematic analysis which focuses on identifiable themes and patterns of behaviour (Aronson, 1994; Boyatzis, 1998). The identified themes were derived from patterns found in the information provided through discussions

with participants, such as descriptions of their eating behaviours, interpretations of their social and physical environments, and how they believe those factors may affect their eating behaviours. While following recommendations by Boyatzis (1998) in terms of being open and flexible when using thematic analysis to perceive patterns within discussions, the ANGELO framework also helped to identify themes related to environmental factors influencing participants to compulsively overeat.

Ethical Considerations

This project adhered to Dalhousie University's Human Research Ethics guidelines for Health Sciences research. Informed consent was obtained from each participant using a consent form specific to this study which discussed adherence to the ethical treatment of participants and behaviour of myself as the researcher. This included ensuring confidentiality and anonymity of participants, receiving informed consent from participants and individuals who may be included in photo-elicitation pictures, as well as ensuring credibility and validity through member-checking. All documents and transcripts were kept in a locked filing cabinet for the duration of the research, except when being transcribed and analyzed, with my supervisor, Dr. Sara Kirk, at the School of Health Administration at Dalhousie University. As per University regulations, the data will be destroyed after five years once the research is completed.

Once the research proposal was approved by Dalhousie University Health Sciences Research Ethics Board, the recruitment for this study began and consent forms were signed by each participant. The consent form described the

nature of participant involvement, time commitments and expectations, and the right of participants to review their individual transcripts and themes generated from interview data.

Disseminating Findings

Upon completion of the data analysis and writing of this thesis document, I will present the findings of this investigation at my thesis defense, as well as workshops and conferences related to obesity, disordered eating, and/or the health of women. The findings will also inform analysis of current epidemiological data, and will represent a platform upon which such future studies might be based. Similarly, I will distribute critical contextual information about weight-related motivations and obstacles faced by overweight and obese Nova Scotian women who compulsively overeat among health promotion program planners and within health care delivery systems. Findings will be presented to both the Self-Help Connection and Eating Disorders Action Group who work with this population within communities throughout Nova Scotia in the hopes of developing and delivering more programs and supportive networks for women who compulsively overeat. Finally, policy audiences will benefit from evidence with which to inform decisions directed toward community and regional health promotion initiatives.

Chapter 4: Results

In this research investigation, six overweight and obese women who experienced compulsive overeating behaviours described their influences to overeat and how they were coping with the surrounding obesogenic environment. The purpose was to explore these experiences in the context of specific social and physical environmental determinants to overeating and ways to overcome the behaviour. This chapter presents a description of the study's participants — Joan, Marie, Lily, Whitney, Samantha, and Skyler (not their real names), including demographics and experiences with compulsive overeating. Prior to this review, the conceptual framework that has guided this research will be discussed. A summary of information provided by each participant will then be implemented using specific environmental determinants as outlined in this framework, followed by an overview of how women perceive they are coping, and ending with a description of the study's unanticipated results.

Review of Conceptual Framework

The ANGELO framework was utilized during this investigation to organize information provided during participant's interviews into key themes. Though the purpose of this research was to explore social and physical environmental determinants, following the micro-environmental settings and macro-environmental sectors provided by the ANGELO framework allowed the researcher to describe more details about the social and physical environments

that may not have otherwise been captured due to the robust discussions with participants. For example, the Public Health Agency of Canada (2001) defines the social environment as including family, peers, community, and workplaces which can all be found embedded into the settings that were used as codes in the study's results (including homes, neighbourhoods, and workplaces). The same can be said for the physical environment which includes factors relating to the design of communities and transportation systems (PHAC, 2001) in which participants described safety when it comes to walking in the neighbourhood and difficulties accessing healthy, local food as it related to transportation systems.

The following table outlines examples of the Microenvironmental Settings and Macroenvironmental Sectors as presented by Swinburn, Egger, and Raza (1999) which were used as codes during the data analysis process (Table 1). It should be noted that these are examples and that some overlap appears to exist between them. However, following the ANGELO framework enabled the researcher to incorporate the social and physical environmental determinants influencing overweight and obese women who compulsively overeat according to an established methodology in the literature relating to the obesogenic environment.

Table 1. Examples of Microenvironmental Settings and Macroenvironmental Sectors

Microenvironmental settings	Macroenvironmental sectors
Homes Workplaces Schools Universities/tertiary institutions Community groups (e.g., clubs, churches) Community places (e.g., parks, shopping malls) Institutions (e.g., hospitals, boarding schools) Food retailers (e.g., supermarkets) Food service outlets (e.g., lunch bars, restaurants) Recreation facilities (e.g., pools, gyms) Neighbourhoods (e.g., cycle paths, street safety) Transport service centres (e.g., airports, bus stations) Local health care (e.g., GP, hospital)	Technology/design (e.g., labour-saving devices, architecture) Media (e.g., women's magazines) Food production/importing Food manufacturing Food marketing (e.g., fast food advertising) Food distribution (e.g., wholesalers) Food catering services Sports/leisure industry (e.g., instructor training programs) Urban/rural development (e.g., town planning, local councils) Transport system (e.g., public transportation systems) Health system (e.g., Ministry of Health, medical schools, professional associations)

Description of Participants

Table 2. Participant Demographic Information

Variables	Participants					
	Joan	Marie	Lily	Whitney	Samantha	Skyler
Age range	30-49	30-49	30-49	30-49	30-49	50-64
Occupation status	Mother	Student	Full-time worker	Unemployed	Full-time worker	Part-time worker
# people living in household	4 +	1	2	1	3	1
Relationship status	Married	Single	In a relationship, living together	In a relationship, not living together	Married	Widowed
Type of living community	Suburban	Urban	Suburban	Urban	Urban Rural	Suburban
Type of working community	Suburban	Urban	Urban	Urban Suburban Rural	Urban	Suburban

Joan

During the time of the interview for this investigation, Joan experienced emotional eating. Whether she was bored sitting at home alone in front of the television after her children had gone to bed and her husband worked in the backyard, or she was stressed from constantly worrying about her family, Joan could usually be found with some comfort food in hand, trying to fill a void. Joan recognized that although she binged on food to help make her feel better, in that any bad feelings were suppressed while she ate, she described the immediate gratification as very short-lived, which led her to searching for the next food item she would consume. With health issues such as diabetes and heart disease running in her family, Joan recognized that she should adopt healthier eating habits, not only for herself but for her children. However, the stress of just thinking about the possibility of not being around for her children in the event that her health deteriorated brought her to eat even more.

Marie

Growing up, Marie remembered hanging out at a friend's house after school where eating was described as an activity. Food was always something made available to her and she noticed early on how food was capable of lifting her mood, but again, only briefly. Over time, her perpetual consumption of food led to her gaining weight, which had made her feel bad and so went the cycle. Marie also experienced episodes of restrained eating, after which she described experiencing the most positive reinforcement she had ever attracted in her life.

After losing 90 pounds within a three month period of not eating very much at all, Marie's health suffered but to her and her friends, such weight loss was associated with willpower and superiority. The restrained eating she endured did not last very long, the weight crept back on as Marie's cycle of binge eating continued. Now a graduate student, Marie brought a wealth of knowledge and insight into how her surrounding environment and the influence it had on food-related behaviours has changed since she was younger.

Lily

During the interview, Lily recounted that almost 20 years ago she remembered working as a personal trainer and fitness consultant after losing 100 pounds. The weight did not come off easily for her, as she described the various diets she followed and the long road it took her to get to her 100 pound loss. Also with a counseling background, Lily was able to set herself up for success at that point in her life, but she continued to struggle with compulsive overeating behaviours, particularly in the presence of alcohol and at social events with friends. During her involvement in this study, Lily described various external factors that influenced her and other individuals to overeat, including advertisements on billboards and the availability of food among different socioeconomic status groups.

Whitney

Whitney described experiencing many episodes of compulsive overeating in her life; the most significant factor being tied to her emotions as she remembered starting to binge eat after her mother passed away. Like Joan, Whitney described that she would eat in an attempt to fill some kind of void, but the feelings would never really subside, so she just kept eating. As she described during the interview, overeating for Whitney was also connected to external food cues such as eating an entire bag of chips just for the sake of not wanting to see it, or finishing off a meal — not due to hunger but instead to not waste any food. In addition, Whitney explained that she was on social assistance and therefore struggled to find good, healthy food on a limited income.

Samantha

Samantha described having struggled with her weight since she was 19 years old and dieted off and on ever since. She attributed a great deal of her weight gain to external food cues, such as portion sizes at restaurants, eating her daughter's leftovers, and socializing around food with her husband and friends. Although she maintained that she could successfully diet until she felt somewhat happy with her weight, she would continuously go off the diet only to have the weight return as a result of compulsive overeating.

Skyler

Skyler, originally from the United States, has been living in Canada for several years. During the time of the interview, she lived alone in an apartment with her daughter's family nearby. Skyler attributed her compulsive overeating behaviours to emotional eating as she tried to overcome feelings of loneliness and boredom on a regular basis. Skyler reported having dieted most of her life, even resorting to surgery and diet pills in the hopes of keeping off extra weight. Overeating in response to restraint was also an issue for her, as she typically never ate breakfast and would binge on Reese Peanut Butter Cups© while she worked from home. At the age of 62, she wondered, "why bother?" when it came to losing weight.

Review of Findings

The codes used during the data analysis process of this investigation followed the different sizes of environments according to the ANGELO framework (i.e., Micro and Macro environments) as well as additional social influences and coping mechanisms. Therefore, the following section provides a review of participant's observations in relation to each of those codes.

Microenvironmental Settings

The following section describes all microenvironmental settings that were identified by participants as contributors to their compulsive overeating behaviours.

Homes

For some of the women who participated in this investigation, the home environment was where the majority of compulsive overeating behaviours were expressed. This was primarily due to emotional factors, such as loneliness, worry, and stress that these women experienced on a regular basis. For Joan, this could be traced back to past experiences with her mother commenting on what diet she was currently on and measuring out her portions at home. Having a mother who was always trying to lose weight affected Joan in a way she could only describe as going to the other extreme and not dieting at all. Joan recognized that there needed to be a “middle ground” where she could be happy with her size and still be healthy for herself and her family, and she hoped to instill this in her children. During this discussion, Joan also described where her overeating behaviours typically took place and attempted to decipher what could be contributing to it:

Like I do most of it probably at night, like once my kids are in bed and everything has been done. Like all my chores have been done and I'm watching TV. So that is what this [picture] is about. This is usually where I am. I am sitting right there. I don't know if the couch... I guess there must be some sort of trigger or whatever there but I don't think it's the couch and TV that make me eat. But that is usually where I am when I open a box of crackers or a bag of chips or whatever and then eat half a bowl of cereal and then half of something else.

Joan later added to her thoughts on being a busy mother and struggling to get things done while simultaneously identifying a disconnect between herself and the environment:

It's interesting because I have friends that we trade off babysitting with. And so we're like, “Oh, no, you can't come and babysit my kids.

It's too much for you. You have three of your own." You know what? If I go to your house, I can sit and do nothing. Your laundry, I am not folding your laundry. Like I'm not making your kids' lunches for school the next day. I am just going to be able to sit. So yes, I'll totally come take care of your kids. Because once they are in bed, you literally get to sit, right? But at home, there is always something. But again, if you really get down to it, they are probably all just excuses. And lots of other people manage to make it to the gym and make it here and there, and make good choices.

Although Joan's compulsive overeating behaviours took place while she was alone at home, Samantha's overeating typically occurred in the company of her husband. Samantha struggled with the portion sizes her husband ate as she tried to keep up. And in the evenings when she would fight any urge to eat, she could not always refuse snacking on whatever her husband had on hand.

Whitney had also experienced overeating in her home when her boyfriend cooked for her. He would make the same amount of food for each of them to eat, and Whitney's frustrations were similar to Samantha's in that her boyfriend could seemingly eat whatever and as much food as he wanted without gaining a pound when it was obviously not as easy for her to maintain a healthy weight. This frustration often led her to eat even more. Skyler also struggled with compulsive overeating in her home, especially during the long winter months when her schedule left her alone the majority of the time.

Figure 1. Skyler's photo which represents lonely, quiet days at home



Workplaces

Although most people experience stress in the workplace at some point or another, for women who have issues with compulsive overeating, it can lead to a binge. Upon discussions with Lily, she indicated the workplace as an environmental influence to compulsively overeat — specifically during lunch breaks. Although all employers are required to provide a lunch break for their employees, Lily thought she was simply too busy to take a break to eat and worked through her 'lunch hour' or did not have enough time to sit down and

consciously eat a meal. Therefore, she believed lunch breaks were often implied rather than set, or in some cases even looked down on by her employer or other employees if it looked like she was slacking. Lily believed this to be the case for a lot of people:

I think work is something that can be very stressful for people, depending on their environment...I guess some people work in environments that don't allow them time to eat well. It is said, "Oh, you are supposed to take time for your lunch," but it is sort of looked down on. So many people even work through their lunch. Then I think that unconscious eating happens more so than people realize because they are just sitting and eating all the time.

Universities/Tertiary Institutions

In addition to her own behaviours, Marie had also noticed the general behaviour of students in a University setting in relation to food. During this investigation, Marie recounted how students never used to eat during classes before, nor was there ever such a selection of food choices — cafeterias, coffee shops, pubs, and various other food service outlets available to students. In her view, it seemed the availability of food to students had shifted their attitudes toward it:

Food is like all the time. Go to Tim Horton's, go here, go there. There weren't any places on campus [before]. You brought your own food with you. And again, you wouldn't eat in class. So you would eat at lunch time or after. So like people eat all the time now.

She has since noticed this change in attitude around food in herself as she remembered her family only having food available at meal times while she was growing up. She wondered if this shift in attitude toward food, particularly in

University settings, was a result of the availability of food, or the type of food students had to choose from.

Community Places

Marie discussed the issue of shopping malls as a type of environment able to influence individuals to overeat. She described how shopping malls were not always considered to be an influential setting when it came to food until they adopted food courts. Now individuals are free to shop all day long without risk of going hungry. And as Marie pointed out, the selection of food available in most food courts was not necessarily of the healthy variety:

It was like that was a big thing when we started going to the malls and there was food courts... You would hang out and you would go do your shopping, and then you would go to the food court and you would get your onion rings, your fries, or whatever.

Food Retailers

As a result of interview discussions with participants, grocery stores were given a red flag when it came to environmental influences to overeating. All participants involved in this investigation agreed that the cost of healthy food options, such as fruits and vegetables was stressful and the cost of unhealthy options, such as candy and chips was too difficult to ignore. Marie discussed this as she described a picture she took for this investigation:

I took a photo of the marked down baked goods at Superstore. So they have, particularly here, like large boxes of stuff but it's marked down so it's really cheap. So you end up spending money on large amounts of stuff which is going to go bad soon. So I have to eat it. And also because well, it's only half price so I'll buy multiples. And I

find for me, there is a financial kind of thing that goes on too. And especially with like marked down stuff. And it tends to be the stuff that isn't good for you. You don't find as much marked down produce and things.

Even though participants reported that they did not always plan to purchase unhealthy food items when they went to a grocery store, they were tempted and usually gave in to the row upon row of sale items that typically included candy, chips, chocolate, or pastries.

Figure 2. Samantha's photo representing the abundance of unhealthy food in grocery stores



Figure 3. Joan's photo representing the abundance of unhealthy food in grocery stores



Several pictures of items like these were taken during this investigation as participants discussed how difficult it was to refuse a “great deal” for such food items even though they may not have been on their grocery list. For example, Samantha explained how she submitted to unhealthy food purchases at grocery stores by stating, “They are not even on my list to buy. I don’t even want to buy them. But then I see them. And just depending on the mood I am in, I could succumb.”

Lily described her frustrations with this; in particular the way grocery stores are designed is to have the so-called “good food” around the perimeter of the stores, and the less-good-for-you foods in the center. However, most if not all grocery stores seemed to have random sections of reduced prices on unhealthy food throughout the store. It was therefore suggested that regulations should be

put in place for grocery stores to reduce the prices of healthy food options more frequently and drastically as they do with unhealthy foods and to have fruits and vegetables scattered throughout the stores in place of chocolate and candy, particularly near the cash registers at the front of the stores.

Food Service Outlets

Five of the six participants involved in this investigation reported on the struggles they encountered with restaurants, including both fast-food and sit-down varieties, that led them to overeat. One of the main reasons why restaurants were a major determinant, as reported by these women, was that they were able to eat food that they may not necessarily get to enjoy on a regular basis. Joan claimed that her husband's food allergies (which include eggs, fish, and honey) were a big reason why she ordered so much food when she would go out to eat with friends, especially when it came to Chinese food. She claimed, "It's all a seduction" when she had an opportunity to go out to eat at a restaurant because even though she knew it would not be the last time she would have the chance to eat the food her husband is allergic to, "the world might stop between then. Who knows."

Portion size was another major determinant influencing overeating, as described by participants and most food service outlets were believed to be the culprit. All participants shared in this view as they discussed their compulsive overeating habits. They shared that if the food in question was in front of them,

regardless of how much there was, it would get eaten. This was often the case for Samantha when she would go to a restaurant and order a steak.

On the menu, you have a choice between an 8 ounce or a 12 ounce. Well, of course I choose the 8 ounce but I really shouldn't be eating even 8 ounces. I should only be eating 4 ounces of meat at one sitting. But I mean what.. Are you going to throw that in the garbage? And then you are talking as well so you are socializing. And then you get two-thirds of the way through your steak and then it's too little to ask them to put it in a doggy bag to bring home. So yes, I'll just eat it. And all these potatoes are so good. I'm going to eat all of them even though I don't have to.

Lily's experiences with portion sizes at various food service outlets had left her feeling astonished. She recounted a typical experience at the movie theatre where she wanted to purchase a beverage to share with a friend. Lily had not been to the theatre for quite some time and figured that since she was planning to share a drink with her friend that she should order a large size. She was astonished after she was given her drink of almost two liters. "They shouldn't even be able to sell that... we need to take the power away from these fast food restaurants, all of these places, with their portions," she exclaimed.

The availability of unhealthy food, particularly through fast-food restaurants was a cause of concern among participants within this investigation. Marie acknowledged this issue during her interview by specifically targeting many restaurants, such as McDonalds, which has many of its stores open on a 24 hour basis.

Figure 4. Marie's photo illustrating the availability of fast food in her community



The accessibility of food was discussed among all participants and therefore was described as a major determinant of their compulsive overeating behaviours. For example, Whitney described Spring Garden Road in Halifax, Nova Scotia as “food central” and several pictures were taken of numerous fast food restaurants on other busy streets in the downtown area of the Halifax Regional Municipality, including Main Street in Dartmouth and in Bayers Lake.

Figure 5. Marie's photos illustrating the abundance of fast food restaurants in her community



Figure 6. Joan's photo illustrating the abundance of fast food restaurants in her community



In the view of retailers, these clusters of restaurants may be of a competitive nature, which Whitney described food retailers as “[wanting] you to take your money and give it to them.” However, for these women who compulsively overate, restaurants were seen as a quick and easy way of getting delicious food for a small price — and this combination led them to binge eat. Whitney added to this by saying that going to one of these restaurants meant that she would not have to prepare, cook or clean up after her meal which could take up a great deal of time in her busy schedule.

This was also the case when Samantha began discussing a picture she took (for the purpose of this investigation) of a McDonalds restaurant in a Wal-Mart store.

Figure 7. Samantha’s photo illustrating the draw to fast food while shopping



Samantha was with her daughter buying clothes at Wal-Mart when the thought of going home and preparing a “proper meal” would simply take too long; therefore, they ended up eating at McDonalds. This is how she described her experience:

The other things too with Wal-mart, I mean they are a huge chain of department stores... They have partnered with McDonalds now. You see, before I would have to drive by the McDonalds. And it wasn't a problem for me. But now I've got to walk by it. And I've got a 6 year old going, “Mommy, mommy, that looks good.”

Finally, the cost of healthier options at food service outlets was described as a deterrent in overcoming compulsive overeating behaviours. All participants discussed that one of the reasons why they purchased fast-food or similar unhealthy foods at other restaurants was because healthier alternatives were simply too costly on their limited budgets. The result of frequently eating such unhealthy food options was described as a major determinant for continuing to eat those kinds of foods. Participants also discussed compulsive overeating as a result of the cost of food in relation to coupons. This discussion can be viewed in greater detail under Food Marketing.

Still, when participants thought they were doing all they could to save money, such as buying a ‘value meal’ where a drink and a side is included in the price for a burger or sandwich, there continued to be an influence of unhealthy eating at these restaurants. For example, Samantha described her encounter at a Tim Hortons and how she was influenced to buy a donut in order to save money:

What happened here (picture) is that the Tim Hortons has a meal deal that you actually get the donut... You actually pay 60 cents more if you don't get the meal deal which includes the donut... I am not going to order the sandwich and coffee separate if the

meal deal makes it 60 cents less money. But then you've got to take this donut.

Figure 8. Samantha's photo illustrating Tim Hortons treats in her car



Therefore, in these instances there was an attempt to save money, yet the influence of buying more, unhealthy food prevailed.

Neighbourhoods

Unable to access available healthy food items was also described by participants as being a deterrent to overcoming compulsive overeating behaviours. Lily discussed this issue as it related to the difficulties many families have who live outside the city limits but want to access healthy, local food options, such as a local farmer's market. Lily suggested adopting a more active culture similar to many European cities where most people walk instead of drive.

We live in a society really that so many of our people have to drive vehicles. So they don't get out and walk because it's not part of our culture. Whereas when you go to Europe, everybody is walking. So I

think there needs to be a shift there. And I think it all goes hand-in-hand. If you have to walk to the market or to a little grocery guy, like your farmer guy, and it's made so that there is a nice way to walk. And you can walk there to get your fresh food and you can walk back, and you know how to make your fresh food, we would be on our way to [healthier living].

Another issue participants discussed in relation to neighbourhoods was safety. Halifax Regional Municipality has one of the highest crime rates in the country (Statistics Canada, 2009) and participants like Joan felt that it was not always safe, or easy to walk or do any sort of exercise at night. Yet unfortunately, the evening was often the only time Joan had some spare time to engage in any sort of activity. Joan claimed she was able to go out for daytime walks when her kids were very young, but it was just too challenging and she often did not feel safe to walk in her neighbourhood at night when she did have the time.

[The kids] are getting older now but essentially for like the last seven years, I've been like house-bound. I can't just say, "Oh, I'm going for a walk," and go walk for two hours. It has to be coordinated. And my husband is not home every night. I don't want to walk at night in the dark by myself. That is not safe.

Both Lily and Joan suggested the city should invest in more street lights, bike lanes, and public transportation subsidies as ways to overcome these challenges.

Local health Care

This investigation revealed challenges with local health care with respect to overweight or obese women — in particular that many GPs did not understand or were unwilling to work with these women to achieve a common goal of losing weight. During her interview, Joan remembered negativity and a condescending

attitude during an encounter with her GP while she was pregnant. After changing GP following the birth of her children, she recalled an instance when she weighed herself and her new GP suggested she lose 70 pounds from her 235 pound frame. When Joan asked her GP what she should do to lose the weight, her GP explained that it was simply a matter of watching what she ate and engaging in some form of exercise. Whitney had a similar experience with her GP when she was told that simply eating less and exercising would help her lose weight. Yet when it came to eating less, she was told to cut out certain foods completely, such as pop and junk food, which she was not prepared to do. And when it came to paying for a gym membership, some local gyms such as the YMCA offered subsidies to individuals living on a limited income; however, for someone like Whitney who did not know how to properly use any of the exercise machines, those subsidies did not cover a trainer. This all led her to feeling frustrated and her weight loss journey never commenced.

Also during this investigation, Lily recounted a discussion she had with a physician in Nova Scotia about obesity among women that led to the same conclusion. The physician told Lily that she would sometimes get an urge to eat ice cream and would subsequently get herself a container and eat it, but that she knew enough to put the lid back on when she thought she had enough — and that this should be the same for anyone else. She believed it was up to each individual to decide if they were to choose to eat an entire container of ice cream or not. Lily believed attitudes like these led to self-blaming thoughts among many individuals. She explained,

I think there is a lot of self-blame but I think that comes from years of our healthcare system and our society and looking back, “Well, why did you [eat] that? Why didn’t you stop eating? Like what is wrong with you? Just don’t eat it. Don’t do it.” And I think for some people, it’s not that easy.

Macroenvironmental Sectors

The following section describes the macroenvironmental sectors participants identified during interview discussions as influential in regards to their compulsive overeating behaviours.

Media

One influence to overeat experienced by two participants within this investigation was the media. Whitney and Skyler would look to the media — specifically the images portrayed by female celebrities and the popular diets they endorsed when it came to wanting to achieving a certain look. Both Whitney and Skyler viewed these as the ideal images of women, which only left them feeling envious and depressed. When asked how media advertisements for certain diets or dieting pills endorsed by beautiful, slim celebrities affected her, Whitney said, “Big time because I’m always like, “Oh, I wish I could be like that person and have that kind of body.” But that will never happen obviously. Not any time in the near future.” Skyler added,

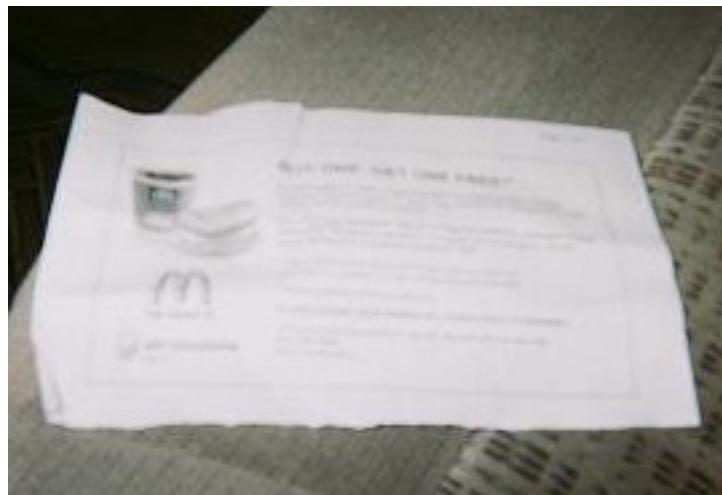
When I see like a movie actress in a bikini or especially the actresses that are like my age and they still look really good, it makes me really sad because I think I can’t ever look like that again. You know, unless I had some liposuction and all of that.

Unfortunately, these images are everywhere and as Lily pointed out, “you never see an obese person in a food ad.”

Food Marketing

The most widely discussed topic during this investigation was related to food marketing — in particular, fast-food advertising. Participants believed that it was almost as though fast-food chains knew that their target population included families on limited incomes, and therefore influenced those individuals to purchase their food as much as possible. One way participants described this was through the availability of discount coupons.

Figure 9. Samantha’s photo illustrating the influence of coupons



They described that on a regular basis, fast-food restaurants would mail out various coupons including ‘2 for 1’ deals to be used within a limited time frame. For Joan, Whitney, and Samantha, those coupons were important as they felt

they had to take advantage of the food deals the restaurants marketed because of their limited incomes. For instance, Joan explained exactly how restaurant coupons affected her and her family:

[Coupons] are bad for me because I feel like I have to take advantage of them. Because honestly, if I don't have a coupon, we don't typically eat out or anything like that. So I mean I did take a picture of McDonalds but driving by McDonalds doesn't necessarily make me want to stop and get something to eat unless I have a coupon. Because I am not working so [my husband], he's the one who is bringing in the money. So we don't have a lot of extra funds for eating out. So unless it's a coupon and I justify it because oh well, it's a deal, it's a treat.

For Marie and Lily, it was seeing the advertising first-hand in the restaurants that appealed to them most.

Figure 10. Marie's photo illustrating fast food marketing



Lily suggested that there should be more education around what exactly was in the food eaten at these places because the advertising in many of these restaurants, whether it was fast-food or coffee shops, was selective in the information provided. For example, Lily explained how she believed Tim Hortons used special advertising to influence people to buy certain products:

So [Tim Horton's] is going to sell you a bran muffin. So we are told that bran is really good for us, and muffins are not a bad food. That is what we are told. But if you look at that bran muffin at Tim Horton's, you would be better off having a donut. That is like almost... Their muffins used to be almost like six pieces of bread. I think they are smaller now. So [there are] a lot of layers, I think.

As a result, Lily suggested increased education and awareness of what individuals eat as essential to help overcome environmental influences to overeating.

Although displaying nutrition information next to food items has been suggested to help overcome the obesity epidemic, for some women who compulsively overeat, it would require much more than that. For instance, when asked if seeing the nutritional content of food items would influence her choices, Whitney explained, "I wouldn't know because I wouldn't even know how to read it, what each of it would mean. It would probably make me want to eat more."

With all that has been discussed with participants in relation to the pictures they took for this investigation and sharing their experiences with compulsive overeating, it became more and more clear that these women were having difficulty coping with the obesogenic environment that surrounds them.

How Women are Coping

During this investigation, participants discussed various environmental determinants that they believed influenced them to compulsively overeat. Although this was the subject at hand, it was difficult in most cases to keep participants focused on the specific influences within their environment. Instead they would internalize the problem and claim a loss of control or that it was still their choice to overeat in the presence of those influences. For example, when discussing the large portion sizes at restaurants with Samantha, she described her frustrations with it and wished she could order smaller portions, but then went on to say,

I don't blame the restaurants. I blame myself for not making that choice. I mean we all choose to stick the food in our mouth or not. And I choose to do it. And that is why I wear a size 10 and not a 6.

When asked how she believed she was coping with her environment given all the influences we had previously discussed, Joan replied: "Probably not very well... I don't think, if I'm planning food for like when [my husband] is out. That is not coping. So no, I am not coping well at all." When asked what gets in the way of her being able to cope, Joan answered:

Probably having to change habits, and having the strength to change the habits. Just choosing to eat instead of reading a book or going for a walk around the neighbourhood or cross-stitching or... And like food is easy. I mean I know how to eat it. You know what I mean? Like I can't get that wrong. So I think it's just the comfort to a point of being in your little zone and not stepping out of it is what my thing is.

Whitney also expressed her feelings toward how she believed she was coping by saying, “I don’t think I’m really coping with it. I’m just [binge eating] and not dealing with it.”

Although participants described several challenges with the obesogenic environment and their compulsive overeating behaviours, there were also moments of breakthrough. The following section describes a few unexpected findings that left a positive light among participants.

Unanticipated Results

An interesting finding within this investigation was the insight and knowledge gained by participants as a result of taking pictures for the photo-elicitation data collection technique. When asked about the process of taking pictures for this investigation, participants responded that they did not necessarily know what to take pictures of at first, but that this task forced them to really think about what environmental influences contributed to their compulsive overeating behaviours. Joan even reported that she lost weight during the time she was taking pictures because it allowed her to be more aware of her surroundings and what she was eating:

I realized taking pictures of things when they were triggers; I realized I can’t let that control me anymore. And I lost probably three pounds that week, the first week when I was taking all those pictures because I would stop and think about why this makes me eat and think how silly it was.

In addition, Whitney commented that this aspect of the study gave her an idea to take pictures of fruits and vegetables to put on her fridge thinking that it would have motivated her to eat them on a more regular basis.

Although participants were directly asked what they believed would help them to overcome their compulsive overeating behaviours, the researcher did not anticipate the level of awareness and insight they presented. The following suggestions were made by participants as a direct result of this investigation.

First, Joan stated:

I think support groups are great... to have sort of an intimate group of people, maybe 10 or whatever, of people that you really get to know. And it's the same people every week. So I think the support is a big thing. Not so much about needing to know how to do it right or do it wrong but just having someone there that is sort of going through the process with you.

Skyler also acknowledged support groups as being a tool for overcoming her compulsive overeating behaviours:

To know that other people have the same problem, to get some feedback from them, what they do about it, and can maybe not feel like I am the weird person in the world that does this to make myself feel good. You know, to know that other people do it too.

For Lily, education was viewed as a major component — not only for individuals with compulsive overeating issues, but for the population as a whole.

I think we need to look at the education piece, I think it is really important that we need to frame it differently. That it is not about just being overweight or obese, it's about education for all. Because the chance of that skinny person having arterial sclerosis or a heart attack because they eat crap and at [McDonalds] all the time because nobody in their family is fat. So they can eat whatever they want. And that is a scary thing too. So you know, you go in the cardiac unit, you are going to see skinny people there. It's not just fat

people who have had heart attacks. So I think if we broadened it and educated everybody, our whole population would be healthier.

Whitney agreed that education would be a very important component to overcoming her compulsive overeating behaviours, stating that, “more information out there that people can actually read... on food in general, binge eating, [and] how to cut back and change to eating properly.” She also suggested taking all junk food away from grocery stores, gas stations, bars, drug stores, and so on, so that it can not be purchased.

Lily also had some thoughts on other areas needing improvement, particularly in relation to the obesogenic environment:

So I think education is important. But I also think we need to look at, like I said, legislation and policy. We need to look at advertising. We need to look at increasing wages so that people can afford better food. We need to look at supporting farmers so that they can give us their food.

Finally, when discussing advertising, Lily brought up a picture she took of a blank billboard (below), which she described as representing most of the advertisements out there, for example, “it could be somebody having a nice bite of a hamburger” (Lily, personal communication, October 1, 2009).

Figure 9. Lily's photo of a blank billboard which represents any type of food advertising



She then went on to describe:

It's beautiful people. So why can't the rest of us look like that if we are going to eat a bird in a bucket? You know, Kentucky Fried Chicken or whatever the case may be. So I think there's a really big thing about advertising. As I look more at it now, I am almost to the point where I think there should be no... There shouldn't be advertising allowed of certain types of foods.

Most participants agreed that advertising on billboards should be limited, particularly those advertising a food product or fast-food restaurant.

Summary

This chapter provided descriptions of participants and their responses to interview questions as they related to the different sizes of environments characterized by the ANGELO framework. With this basic understanding of the

lived experiences of overweight and obese women who compulsively overeat and their interpretation of influences within their surrounding environments, the following chapter enhances this discussion with the researcher's interpretation of the data.

Chapter 5: Discussion

Throughout the interview process, participants spoke a great deal about their overall experiences with food, including their eating habits, types of overeating, as well as the variety of foods they typically eat during a binge. While this information is critical to understanding the nature of why women compulsively overeat, the most significant findings within this particular investigation arose when participants discussed the pictures they took (photo-elicitation) and the various environmental determinants they believed influenced them to compulsively overeat. However, regardless of the insights they exhibited concerning different types of environments and their effects on influencing overeating behaviours, these women continued to blame themselves for their weight. The following section reviews the key themes generated from this investigation, and explores the implications for future research and practice — specifically how it relates to health promotion.

Overall Findings

From participant responses to interview and photo-related questions, it was evident that each woman was being influenced on some level by the surrounding obesogenic environment. Although each participant came from a different background and had different food-related experiences throughout their life, the similarities among their discussions were astounding. When asked why they engaged in compulsive overeating behaviours, the women explained

various experiences that shared common themes, for example, feeling stressed, lonely, bored, tired, or busy. They also reported not ever wanting to waste food, and would therefore overeat in one sitting so that no food went to waste; or they were in the presence of alcohol which, as they described, was usually associated with food and overeating.

While it appeared as though participants were aware of elements within their social and physical environment that influenced them to compulsively overeat, it became clear early on that these women were not fully recognizing how factors in the environment made it easy for them to overeat. For instance, the pervasiveness of unhealthy food was addressed by all participants within interview and photo-related discussions, yet they continued to believe that their own choices to overeat regardless of their surroundings were what caused their compulsive overeating issues. Not only were these themes addressed during each individual interview, but the issue of coping within the obesogenic environment raised some interesting issues. Participants reported that they were not aware of any treatment or prevention programs designed specifically to their needs. Among those who did seek help from more traditional sources, such as their general practitioner, they described feelings of inadequacy or inability to achieve positive results since only their weight was being targeted, while their compulsive overeating tendencies were neglected.

In order for health promoters to better understand the obesogenic environment and determine strategies to combat its impact, it is of utmost importance to understand the lived experiences of women who compulsively

overeater, who are among an often overlooked population. As well, it is essential to comment on specific environmental influences, such as the pervasiveness of unhealthy food in our society. This gap in knowledge must be addressed as it may be central to changing the way overweight and obese women who compulsively overeat think about food.

The following section discusses the interaction of themes identified through interview discussions with participants as they related to the issues of pervasiveness of unhealthy food. As well, this section will briefly summarize participants' discussions around coping — specifically how they focused on themselves as the problem. Finally, this section will discuss the interaction of these two issues and how it affected participants. These results can be used to help shape future health promotion treatment and prevention programming as we begin to better understand the lived experiences of overweight and obese women who compulsively overeat.

Pervasiveness of Unhealthy Food

One of the most prevalent factors influencing overweight and obese women in this investigation to compulsively overeat was the availability and accessibility of unhealthy foods provided by food service outlets (restaurants) and food retailers (grocery stores). Using Swinburn, Egger and Raza's (1999) discussion of the different sizes of environments as a guide, this theme can be attributed to the cost of unhealthy food versus healthier alternatives because the larger macroenvironmental sector of food marketing has facilitated linkages

between unhealthy food products and the resourcefulness of women to save money. For instance, in an attempt to get the most value for their money, the six women involved in this investigation reported being heavily influenced by retailers displaying signs for deals on foods such as candy, chips, chocolate, and other unhealthy items. These themes were also borne out in the photographs that participants took. In addition, free coupons advertising food from a particular restaurant were a major influence among these women in that they felt as though they had to use the coupons in an attempt to save as much money as possible.

Making it increasingly difficult to overcome these influences is the number of restaurants, particularly fast-food restaurants in each community where women with compulsive overeating issues live and/or work. Not only are these restaurants visible at many busy street corners, but they are also present in popular shopping outlets, such as Wal-Mart. Schlosser (2001) found that the golden arches which represent McDonalds restaurants is documented as the most recognized cultural symbol in the world (as cited by Zhong & DeVoe, 2010). Since the women involved in this investigation revealed that their fast-paced and busy lifestyles have led them to compulsively overeat, it is without wonder why they turn to fast food as “it represents a culture that emphasizes time efficiency and immediate gratification” (Zhong & DeVoe, 2010, p. 619). In addition, Harrington and Elliott (2009) revealed in their study, designed to understand the contribution of the environment on weight, that women relied more on neighbourhood resources when it comes to food.

Although the contribution of the obesogenic environment on weight has been extensively researched over the past several years, at the time of writing, its influence on compulsive overeaters has not received the same attention. However, some of the research targeting other population groups can still offer support to the findings within this investigation. For instance, Guerrieri, Nederkoorn, and Jansen (2008) studied food intake on primary school children in their study entitled: *The interaction between impulsivity and a varied food environment: its influence on food intake and overweight*. Results of this particular study indicated that when participants were exposed to monotonous food choices, which in this case was one kind of marshmallow, those with a reward-sensitivity (i.e., highly responsive to a reward) did not overeat. However, reward-sensitive participants ate a significantly larger amount than those not sensitive to reward when a variety of food choices (in this case, different colours and flavours of marshmallows) were available. These results showed that a specific aspect of the obesogenic environment, that of food variety, plays a key role in the obesity epidemic (Guerrieri et al., 2008). As it relates to this investigation, Guerrieri et al.'s study suggests that overweight and obese women may be classified into two different groups: those who are reward-sensitive and those who are not. Among these women, those who compulsively overeat may be regarded as the reward-sensitive type since the pervasiveness of unhealthy food has caused them to overindulge in certain foods simply because they were available.

Focus on the Individual

Another key finding within this investigation arose during the very first interview and seemed to evoke a pattern among the remaining participant interviews. Given that social ecological theory, which guided this research investigation, acknowledges and understands the role the environment plays in influencing behaviour, it was hypothesized that participants would be aware of this interaction. However, it quickly became apparent that participants struggled with the interaction between themselves as individuals and their environment as it related to their weight.

Although the women in this investigation seemed to understand that there were specific environmental determinants influencing them to compulsively overeat, they could not seem able to make this connection throughout the interview — not to move beyond a focus on their own individual role in the development of the problem. Their continuous struggles with food and many failed attempts at weight loss have led these women to succumb to the temptations and influences of their surrounding environment, leaving them to think it is their fault when it occurs.

Up until recently, obesity has been viewed as an individual problem (Brown & Siahpush, 2007). Experts seemed to agree that the cause of weight gain was clear; the input of energy in the form of calories must be more than the output or expenditure of energy for weight gain to occur (Obesity Canada, 2001; WHO, 2010b). This simplistic approach to energy balance ignores the multitude of factors that together comprise the obesogenic environment (Swinburn, Egger,

& Raza, 1999). Of the 12 determinants of health identified by the PHAC, the majority have an individual-level component, such as personal health practices and coping skills, education and literacy, and social support networks to name a few, which may perpetuate the notion of obesity as an individual problem. This is also reinforced by the surge of media and advertisement campaigns for weight loss treatment among individuals (Munro & Huon, 2006). By contrast, acknowledging the influence of the obesogenic environment, particularly in relation to the food environment, allows us to deflect the blame from individuals. This is not to say that individuals do not have some personal responsibility, but it does enable us to recognize these multiple contributors and provide adequate support to individuals struggling with weight issues (Peters, Wyatt, Donahoo, & Hill, 2002).

Being considered the breadwinners within their family for the most part, the women within this investigation are at greater risk of being influenced by the obesogenic environment. Additionally, the more women like those within this investigation continue to blame themselves for their weight, the further we as a society are getting away from what must be done to overcome such disabling and frustrating experiences with food. It is also for this reason that society's attitude toward individuals who are overweight or obese is that they are generally lazy and lack the willpower that is perceived to be the reason they struggle with their weight (Wang, Brownell, & Wadden, 2004). It is because of these attitudes that women do not challenge the idea that it is their fault if they have issues with

their weight, which has obviously affected how they cope within their environment.

Coping in an Obesogenic Environment

The pervasiveness of unhealthy food and the lack of recognition that participants had of the obesogenic environment are the main findings within this investigation. While these will be useful in terms of understanding why these overweight and obese women were compulsively overeating, the way in which these issues interact have made it difficult for these women to cope.

Participants reflected on their inability to cope with their environmental influences to overeat. For some of them, it was obvious that they had not been coping as they drew attention to their weight as a response to how they believed they were coping, while others seemed less certain. While we are all exposed to opportunities to overeat and to eat unhealthy foods, we have been conditioned to think that it is our fault if we are overweight or obese.

Unfortunately, evoking change at the environment level is not an easy task. Cultural norms, freedom of choice, and a market economy make any changes at this level difficult. For instance, as Peters, Wyatt, Donahoo, and Hill (2002) suggested, it is unlikely that the environment will go “back to one that requires high levels of physical activity to subsist in daily life or to one in which the food supply is fundamentally altered to be lower in energy density or less abundant/accessible” (p. 71). However, changes can be made at a population level to help overweight and obese women overcome their compulsive

overeating behaviours. For example, as a result of this investigation, it became clear that women did not feel in control of their own actions and binged on food on a regular basis without knowing why or how to stop. In addition, the constant cycle of bingeing on food as a result of succumbing to environmental influences led these women to blame themselves for their weight. Therefore in order to prevent women from feeling this way, they must re-learn conscious control of eating in addition to being aware of any environmental influences to overeat (Peters et al., 2002). By combining efforts like this to overcome compulsive overeating tendencies, future programming for this once overlooked population is likely to bring about change.

Implications for Future Research and Practice

The purpose of this research was to explore the lived experiences of overweight and obese Nova Scotian women who compulsively overeat to identify social and physical environmental determinants influencing their overeating behaviours. While several microenvironmental settings and a few macroenvironmental sectors were identified and discussed, which consequently targeted both social and physical environmental determinants, overall, participants lacked the insight to connect these determinants to their compulsive overeating behaviours. Interestingly, this disconnected view is shared by a society that allows the larger macroenvironment (which in turn influences the microenvironment) to dictate how our communities are managed (Swinburn, Egger, & Raza, 1999). Unfortunately, targeting and attempting to change how the

macro-level of the environment manages its messages to the public is not an easy task (Swinburn et al., 1999). Therefore, changes must be made at the policy level in order to successfully redirect messages to health professionals and individuals. For instance, integrating policy changes such as increasing physical activity and healthy eating strategies will “create a consumer demand for adopting healthier behaviours when made accessible and supported by the built environment” (Peters et al., 2002). Peters et al. (2002) proposed such strategies include both short and long-term initiatives involving helping individuals to better manage their weight and building a strong foundation for success for future generations. This could include building individual empowerment by educating the public on compulsive overeating issues, identifying environmental influences to overeating, and encouraging conscious control of eating among individuals while simultaneously educating health care practitioners on the complexity of overweight and obesity when compulsive overeating behaviours are present.

While it may seem obvious to include health professionals as part of the solution to climbing obesity rates, results of this investigation exposed their lack of skills in adequately supporting overweight and obese women who also compulsively overeat. They, along with today’s society seem to believe that weight is an individual problem and possess negative attitudes toward obese individuals (Puhl & Heuer, 2009; Kirk & Penney, 2010). Therefore, by educating health professionals on the complexity of the problem, particularly issues specific to compulsive overeaters, they can help manage obesity “through working with

obese patients, training others and shaping policy on obesity management” (Kirk & Penney, 2010, p. 22).

In conjunction with short and long-term goals, policy implications should also immediately begin exploring ways to modify the current obesogenic environment that will “facilitate cognitive management of body weight” (Peters et al., 2002, p. 72). This means that not all individuals are able to achieve cognitive control of their weight, as it was for the women within this investigation, and therefore substantial environmental changes must occur. For instance, encouraging physical activity within communities, such as parks, school grounds, and public buildings is a great first step while providing incentives for activity, such as tax breaks could help promote continuity (Peters et al., 2002). In regards to healthy eating, policy changes could include broadening nutrition information to include all restaurant foods and providing an incentive to purchase more fruits and vegetables, particularly from local farmers. Finally, achieving healthy communities in the long-term with the support of policy efforts can begin with setting these examples for our children (Peters et al., 2002). Therefore, it is essential for us to demonstrate the benefits of physical activity and healthy eating as policy-level action to overcome barriers to maintain a healthy weight takes place within our environment.

Health Promotion Perspective

The findings of this research investigation suggest a strong need for intervention, but at what level is this achievable? There is an important role for

Health Promotion, specifically prevention mechanisms, to mitigate the risk of dealing with compulsive overeating issues. The World Health Organization (WHO) defines health promotion as, “the process of enabling people to increase control over, and to improve, their health. Health Promotion moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions” (WHO, 2010c, health promotion section). Because of this view, health promotion, particularly its focus on prevention, presents a useful strategy for influencing future programming, policies, and research. Health promotion initiatives have the potential to move the issue of environmental influences to compulsively overeat among overweight and obese women forward as it “champions principles of community empowerment and social action, giving it transformative potential for the individuals and communities it works with” (Moulding, 2007, p.59).

In 1974, a report on the new policy direction for future health care in Canada was presented to the House of Commons (Health Canada, 2009). This paper, called *A New Perspective on the Health of Canadians: A Working Document*, otherwise known as the Lalonde report, proposed to integrate “two main health-related objectives: the health care system; and prevention of health problems and promotion of good health” (Health Canada, 2009, ¶1). Although this report recognized the importance of the health care system and health promotion initiatives, it also acknowledged that counter-forces, such as eating behaviours, are reversing these efforts. Similarly, while it is necessary to treat obesity-related complications, implementing health promotion policies, such as

restricting access to high-caloric foods and increasing supports for local produce and physical activity within communities (Alvaro, et al., 2010) would play a significant role in preventing compulsive overeating which can lead to obesity. Therefore, the future of health promotion must go beyond focusing on individual-based approaches and reflect the intersection of both macro and micro-level forces that impact health outcomes in order to achieve and maintain any long-term positive effects within the population (Health Canada, 2009).

The problem with treating compulsive overeating as a health issue comes with views that because it is technically not a disorder, it does not have to be treated (Gulli, 2009). Health promotion can otherwise help with this issue by preventing compulsive overeating behaviours among overweight or obese individuals, or those on their way to becoming overweight or obese. Rather than looking for a biomedical oriented 'cure' or ways to recover from the disordered eating behaviour, health promotion initiatives can target prevention mechanisms by empowering communities to be aware of broader environmental influences to overeat. While there has been a lack of critical examination of the application of health promotion in this area to date, this research investigation demonstrated a necessity for interventions to target this population.

Given the extensive research into this area of health behaviours and the new knowledge of environmental influences to compulsively overeat among women in Nova Scotia, this research investigation provided several areas for implementation of programs and services among this population. For instance, when it comes to overcoming many public health issues, such as smoking,

injuries, diseases, and so on, “success at the population level is not likely to occur until environmental influences are identified and modified” (Swinburn et al., 1999). Therefore, health promotion initiatives can begin to pass along this message of specific environmental influences in the hopes that higher-level macroenvironmental messages will follow.

Through discussions with participants, it was clear that these women are not coping very well within the obesogenic environment. However, a recognized health promotion practice to help cope with environmental influences is through involvement in self-help groups, which was also identified by participants. Self-help groups “provide emotional and social support, and practical help in dealing with a problem common to all members” (Self-Help Connection, 2010). With self-help groups existing for an array of issues and concerns, they are proven to be a cost-effective way to seek and provide support to others to help increase social support and empowerment among its members (Self-Help Connection, 2010). With close to 25 years of experience working with self-help groups, the Self-Help Connection believes these groups are “an important component of the continuum of health care because of low cost, ease of accessibility and effectiveness in helping members” (research on self-help section, 2010).

While self-help groups help individuals deal with a common issue, such as compulsive overeating, changes also need to be made at the environmental level. Therefore, a unique opportunity presents itself so that future health promotion initiatives can help change the discourses of behaviour change.

Now that future health promotion initiatives have a basis for targeting the environment as it relates to compulsive overeating issues, it is important to look at any identifiable limitations within this investigation that could have altered the research findings. The following section details all research limitations as perceived by the researcher.

Research Limitations

Several limitations have been associated with this qualitative research investigation. Although there was no record or intention to measure or weigh each participant to confirm whether or not they were actually considered overweight or obese (BMI greater than or equal to 25), the researcher was able to visibly confirm that at least five of the six participants fitted this description. Although it is uncertain if the sixth participant was indeed overweight, her data was taken into account regardless of this because her compulsive overeating behaviours put her at risk for becoming overweight in the future. This was a predetermined limitation since each participant was required to self-identify themselves as overweight or obese, as well as a compulsive overeater to be included in this investigation. The reason for using this approach as opposed to weighing each participant was to reduce the discomfort that might be experienced by the individual, who may be very sensitive about her weight.

Another limitation to this investigation was that the socioeconomic status (SES) of each participant was not obtained to supplement their demographic information. Though targeting SES as a determinant of health was not the

purpose of this research, it could provide useful information and should be targeted in future similar studies.

A final limitation has been identified in regards to the photo-elicitation data collection technique. Although each participant provided photos of elements within their social and physical environment that they believe influence them to compulsively overeat (e.g., fast-food restaurants, advertisements, grocery stores, and so on) — which was the purpose of this data collection method — there were several other pictures taken that did not necessarily provide significant information for exploration. For example, some photos were taken of the actual foods participants typically ate during a binge, and others were taken of places participants described as where their overeating took place, such as the living room couch or in front of a computer or television. While this information provided useful background information about the types of overeating and daily eating experiences among participants, there could have been a greater focus on the specific environmental determinants to overeating. It could be argued, however, that the reason there may have been a lack of environment-type pictures is because they may not have been fully aware of their surroundings and what influenced them at the time. This was reflected during the analysis of interview discussions. Regardless of the limitations associated with this data collection technique, results of this aspect of the investigation revealed that it was highly beneficial for participants. Therefore, this study suggests that photo-elicitation as a data collection technique can be a beneficial and enlightening experience for participants within this investigation. Similar studies might want to utilize this

method to help bring about discussion, insight, and change in regards to disordered eating behaviours.

Summary and Concluding Statements

This investigation targeted six women living in the Halifax Regional Municipality in Nova Scotia — a province with among the highest rates of overweight and obesity in the country (Statistics Canada, 2009). By investigating the lived experiences of overweight and obese Nova Scotian women who compulsively overeat, specific social and environmental influences and the lack of coping mechanisms to overcome such strong environmental influences to engage in overeating behaviours have been identified.

While it is unlikely that the surrounding obesogenic environment will change to suit the health needs of overweight and obese individuals in the near future, suggestions have been made to help women overcome their compulsive overeating behaviours as a result of this research. In addition, through the use of the ANGELO framework within this investigation, we can begin to tackle the various health determinants that have been identified. In regards to targeting health services, it is essential that health professionals no longer assume that individuals who are overweight or obese do not also struggle with compulsive overeating issues. Without proper training and screening of mental health issues among health professionals to identify disordered eating behaviours, these individuals will not receive the necessary intervention to achieve and maintain a healthy weight. Similarly, the health care system should adopt a greater

awareness that there are obese individuals struggling with compulsive overeating and that they deserve and require help to the same degree as individuals with anorexia or bulimia.

Though income and social status was not specifically targeted for this research investigation, participants identified this to be a major influence to their compulsive overeating through the need to use coupons and take advantage of food deals because of their limited income. Further research in this area is needed to help support any future changes at this level.

Identification of specific social and physical environmental influences to overeat, such as how the availability of fast-food restaurants and unhealthy food can affect food choice and how neighbourhood safety and the inability to access local, healthy food may help those struggling with compulsive overeating issues through increased awareness and individual empowerment. Government officials and policy makers can serve as the change agents for these issues by adopting strategies that include increasing awareness of these issues while offering ways to overcome any barriers to healthy eating and physical activity. These ideas ultimately target several health determinants, including education and literacy, social environments, physical environments, and personal health practices and coping skills.

Finally, as per discussions with a participant in this investigation, all employers can help to improve employment/working conditions by supporting healthy living among staff. This could include encouraging lunch breaks and engaging in physical activity, and providing healthy snacks in offices.

If any of these changes are met in the future, we will begin to see a shift in attitudes and beliefs among individuals which will ultimately change their behaviour when it comes to healthy living. This will eventually benefit another health determinant — healthy child development — as we will instill these healthy behaviours among future children. Specifically relating to this research investigation, health promoters can take this information to begin exploring various management and prevention programming for women who compulsively overeat so that they can begin to cope and overcome challenges within the obesogenic environment.

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Appendix A

List of Resources

Family Physician

- www.gov.ns.ca/health/physicians

Counselors (for University students)

- Saint Mary's University: (902) 420-5615
- Dalhousie University: (902) 494-2081
- Mount Saint Vincent University: (902) 420-5611

Eating Disorders Clinic

- HRM: (902) 473-6288

Dietitian

- Tristaca Caldwell - www.fuelingwithfood.com
Phone: (902) 876-3835
Email: tristaca@fuelingwithfood.com

Information about Eating Disorders

- National Eating Disorders Information Centre (NEDIC) – www.nedic.ca
Toll Free: 1-866-633-4220
Email: nedic@uhn.on.ca

Organizations

- Eating Disorders Action Group – www.edag.ca
Phone: (902) 443-9944
Email: reception@edag.ca

Self-Help Groups

Dartmouth

- Overeaters Anonymous – Dianna Gravel
Phone: (902) 462-5241
Email: diannagravel@yahoo.ca

Halifax

- Overeaters Anonymous – Sang-Gye
Phone: (902) 405-6535

Appendix B

Are you a woman with weight issues who also often binges on food?

Looking for an opportunity to participate in a research study?

My name is Ashley and I'm a Masters (Health Promotion) student at Dalhousie University. I am looking for women over 18 years of age to participate in a research project entitled:

Coping in an Obesogenic Environment: The Perceptions of Compulsive Overeaters

This study will look at factors within the social and physical environment that influence overeating/binge eating behaviours.

Participants must meet all of the following criteria:

- Female
- 18 years of age and older
- Resident of Nova Scotia
- Speak English fluently
- Self-identify as overweight
- Engage in overeating/binge eating behaviours (e.g., eat large amounts of food — larger than an average person — in one sitting on a regular or frequent basis).

If you are interested in learning more about this study or may be willing to participate, please contact **Ashley Wisener** at awisener@dal.ca or (902) 466-2011.

You can earn up to \$25 for participating.

Appendix C

Participant Consent Form

Project Title:

Coping in an Obesogenic Environment: The Perceptions of Compulsive Overeaters

Principal Investigator

Ashley Wisener, MA (candidate)
School of Health and Human Performance
Dalhousie University
6230 South Street
Halifax, Nova Scotia, B3H 1T3
Phone: (902) 466-2011
Email: awisener@dal.ca

Supervisor

Dr. Sara Kirk, PhD
Applied Research Collaborations for Health
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1318 Robie Street
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Contact Person

Ashley Wisener
School of Health and Human Performance
Dalhousie University
6230 South Street
Halifax, Nova Scotia, B3H 1T3
Phone: (902) 466-2011
Email: awisener@dal.ca

Introduction

You are invited to take part in a research study being conducted by Ashley Wisener who is graduate student at Dalhousie University, as part of her Master of Arts (Health Promotion) program. Your participation in this study is voluntary and you may withdraw from the study at any time. The study is described below. This description tells you about the risks, inconvenience, or discomfort that you might experience. Participating in the study might not benefit you, but I might learn things that will benefit others. You should discuss any questions you have about this study with Ashley.

Purpose of the study

The purpose of this research study is to explore the experiences of Nova Scotian women who compulsively overeat and have a weight problem to better understand the social and physical environmental determinants that may influence their eating behaviour. Research indicates that the majority of compulsive overeaters have a weight problem and that these individuals are more reluctant to seek help by traditional sources, such as a general practitioner, because their weight is seen as a barrier to treatment. In addition, individuals who compulsively overeat may be more likely to be influenced by their surrounding social and physical environments. Your involvement in this study will contribute to future research and programs in the area of compulsive overeating.

Study design

Women who participate in this study will be individually interviewed by me, Ashley Wisener, the Principal Investigator. This face-to-face interview will be audiotape recorded. The tapes will be typed word for word; however, any identifying information (i.e., names, places, etc) will be changed so that you may not be identified. I will review the typed interview to look for themes or ideas that are similar and different between participants in order to come up with a description of how women who have a weight problem are influenced to compulsively overeat by their surrounding social and physical environments.

Who can participate in the study

You may participate in this study if you are female, 18 years of age or older, have a weight problem, self-identified compulsive overeater, speak English fluently, and live in Nova Scotia.

Who will be conducting the research

There will be two individuals involved in this research study. Ashley Wisener is a graduate student at Dalhousie University and will be the primary investigator for this study. Ashley's supervisor, Dr. Sara Kirk, is a Canada Research Chair in Health Services Research at Dalhousie University. Dr. Kirk will oversee the research that Ashley will carry out.

What you will be asked to do

As a participant in this study, you will be required to do the following:

1) Picture taking — You will be asked to take pictures of items/scenarios within your social and physical environment that you believe influence you to compulsively overeat. I will provide you with a disposable camera for this purpose. It is recommended that you do not take pictures of people who could be identified; however, if you feel it is necessary for the purpose of this study task, I will provide you with another consent form that must be signed by anyone included in your photo(s). You will be given a two week time frame to take as many pictures as the disposable camera will allow, before mailing the camera back to me in the pre-posted and addressed envelope provided. This activity could take approximately 1 to 2 hours to complete.

2) Face-to-face interview — You and I will meet for a face-to-face interview on a day that we will decide on together. Before we begin this interview, you will be asked to complete a short survey that will give me a bit of background information. We will then proceed to carry out the interview. During this time, I will ask you a few questions about your experiences with overeating/binge eating and discuss the pictures you have taken. It is your decision which photos you choose to discuss. When the interview is over, you will be provided with a copy of all the pictures you have taken, along with any additional pictures you have chosen not to discuss during our interview. This process will take approximately 1.5 to 2 hours.

3) Once the interview data has been written word for word, you will be invited to review the anonymous written description of your interview. This will give you the opportunity to add, change, or delete any of the information you provided if you think it is necessary. This process will take 30 minutes to an hour to complete.

Therefore, the total amount of time you can expect to be involved in this study will be 3 to 5 hours.

Because your participation in this study is completely voluntary, you are able to withdraw at any time without repercussions. Should you withdraw after we have completed the face-to-face interview, your data will be destroyed and there will not be any record of your participation. The deadline to withdraw your data from the study is four weeks after you are provided with a word-for-word description of the face-to-face interview.

Possible risks and discomforts

Since weight and compulsive overeating can be a sensitive topic to discuss, it is possible that you may experience some discomfort during the one-on-one and focus group interviews. The probability of this is minimal. **It is important that you understand that your participation in this study is completely voluntary. You can pass on any questions you do not wish to answer, and**

you can stop the interview at any time. In order to provide support to you to lessen any discomfort you may experience while involved with this study, I will provide you with a list of phone numbers for doctors, nutritionists, counselors and psychologists in your community. I will also provide information and resources on how to start a self-help group for compulsive overeating as a way to get continuing support. Also, you will have an opportunity to meet with a counselor who has expertise in disordered eating behaviours, should you feel the need to do so.

Possible benefits

Although there are no anticipated direct personal benefits from participating in this study, it is hoped that you will get a better idea of what influences you to compulsively overeat. It is also likely that by participating in this study, you will contribute to new knowledge and future programming in the area of compulsive overeating.

Compensation

You will be given \$25 honorarium for participating in this study — \$15 for the face-to-face interview and \$10 for taking photos. These moneys will be given to you before we begin the interview so that if you chose to leave during the interview process, you will still be awarded the honorarium for your participation up to that point. Also, if you require a taxi or bus to transport you to and/or from the interview, you will be reimbursed for these expenses. If this is the case, please advise the researcher by phone or email.

Confidentiality & Anonymity

As a participant in this study, you will not be identified in any reports or publications. I will not keep a record of any information that could identify you, such as your name or where you live.

All of our interview discussions will be audiotape recorded. This tape, along with your pictures and survey information, will be kept in a locked filling cabinet at Dalhousie University. Myself and my supervisor will be the only ones able to retrieve this information. Once the study is completed, I am required by Dalhousie University to keep all data for five years. This will be kept secure in a locked filling cabinet in my supervisor's office and will be shredded after five years.

Questions

If you have any questions or would like more information about this study, you may contact myself, Ashley Wisener by phone: (902) 466-2011 or email: awisener@dal.ca, or my supervisor, Dr. Sara Kirk by phone: (902) 494-8440 or email: sara.kirk@dal.ca. You will be provided with any new information that might affect your decision to participate in this study.

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Patricia Lindley, Director of Dalhousie University's Office of Human Research Ethics Administration, for assistance
(902) 494-1462, patricia.lindley@dal.ca.

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I hereby consent to take part in this study. However I realize that my participation is voluntary and that I am free to withdraw from the study at any time.

I also give permission for the following: (please initial)

- Use of direct anonymous quotations in interview transcripts x _____
- Having interview discussions audio-tape recorded x _____
- Use of information I provide at conferences, in journal articles, the researcher's Masters thesis x _____
- Contacting me to review my individual transcript x _____

Participant Signature

Date

Researcher Signature

Date

Appendix D

Photo-Elicitation Instructions

Photo-elicitation is based on the idea of using pictures to help explain ideas and express thoughts/feelings for research purposes. Please read through the following instructions on how to take pictures that will help with this research project.

I will provide you with a disposable camera which you will use to take pictures of anything within your social and physical environment that you believe influences you to compulsively overeat. Some examples are: diet advertisements on billboards in your community, fast food restaurants near your home or office, media messages on television or in magazines, buffet table at a friend's birthday party, and so on. It is completely up to you to decide what you want to take pictures of, just as long as you are able to describe how it influences you to overeat.

You will have 2 weeks to complete this task. You can take as many (or few) pictures as you'd like. Once you are finished taking pictures, please mail the camera back to me to the address shown below. When you and I meet again for our face-to-face interview, you and I will discuss the pictures you have taken. It is your decision which photos you choose to discuss. When the interview is over, you will be provided with a copy of all the pictures you have taken, along with any additional pictures you have chosen not to discuss during our interview.

It is recommended that you do not take any pictures with people in them. However, if you think it is necessary for the purpose of this task (for example, if you are often with one of your friends who overeats and this is something that strongly influences you to overeat), you may decide to have this friend in a picture. In this case, you must have this person sign a consent form which I will provide you, so that he/she is aware of what the picture will be used for. Also, if you chose to discuss a picture that has a person in it for the interview, I will block his/her face with black ink so that he/she will not be easily recognized.

Please mail your camera to the following address:

Ashley Wisener
63 King Street Dartmouth, Nova Scotia B2Y 2R7

If you have any questions or concerns during this process, please feel free to call (902-466-2011) or email (awisener@dal.ca) and I will be happy to help.

Appendix E

Photo Consent Form

I give permission to be included in a picture(s) for the purpose of a research study entitled Coping in an Obesogenic Environment: The Perceptions of Compulsive Overeaters. The purpose of this research is to explore the experiences of Nova Scotian women who compulsively overeat and have a weight problem to better understand the social and physical environmental determinants influencing their eating behaviour.

I understand that any pictures in which I am included are for the sole purposes of guiding discussions during an interview with the researcher and will be destroyed once the research is completed.

Signature

Date

Please contact the researcher, Ashley Wisener by phone: (902) 466-2011 or email: awisener@dal.ca if you have any questions or would like more information about this study.

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Patricia Lindley, Director of Dalhousie University's Office of Human Research Ethics Administration, for assistance (902) 494-1462, patricia.lindley@dal.ca.

Appendix F

Demographic Survey

1. What is your age?

- 18 – 29 years
- 30 – 49 years
- 50 – 64 years
- 65 years and over

2. What is your occupation status?

- Student
- Unemployed
- Part-time work
- Full-time work
- Retired
- Not choosing to work
- Other _____

3. Including yourself, how many people live in your household?

- 1
- 2
- 3
- 4 or more

4. What is your relationship status?

- Single
- In a relationship, living together
- In a relationship, not living together
- Married
- Common Law
- Separated
- Divorced
- Widowed

5. Which of the following best describes the area you live in?

- Urban
- Suburban
- Rural

6. Which of the following best describes the area you work or do daily activities in?

- Urban
- Suburban
- Rural

Appendix G

Interview Guide

AIM: The personal perceptions, beliefs and experiences of overweight and obese women towards their compulsive overeating behaviours, particularly within their social and physical environments.

I am interested in hearing about your overall experiences related to compulsive overeating. I am also interested in what social and physical environmental determinants you experience (such as peer influences, media campaigns, transportation, and so on) that may contribute to your overeating behaviours, what supports you think should be put in place to help you achieve and maintain a healthy weight, and anything else you feel may be relevant to discuss regarding your compulsive overeating behaviours.

Example questions:

1. When you hear the words 'compulsive overeating,' what does this mean to you?
2. Can you talk about your overall experience(s) regarding your compulsive overeating?

Probes:

- a. Can you think of a specific experience?
 - b. How did you feel about that experience?
 - c. How do you think those experiences have had an impact on your life?
3. Can you tell me about a typical day and how eating fits into it?

Probes:

- a. How does eating make you feel?
 - b. How do you think compulsive overeating has impacted your life?
4. Can you tell me what you think contributes to your compulsive overeating behaviour?

Probes:

- a. Where does your overeating typically take place?
5. How are you coping with your compulsive overeating behaviours?

Probes:

- a. What helps you cope?
- b. What hinders your coping?

6. Can you tell me about your experience when taking pictures for this study?

Probes:

- a. Did you know what to take pictures of right away?
- b. How did this task make you feel?

7. Can you tell me what kind of support you think would be required to help you overcome your compulsive overeating behaviours and to achieve and maintain a healthy weight?

Probes:

- a. Have you been involved in any programs related to overcoming compulsive overeating behaviours?
- b. Are you aware of any programs or initiatives for compulsive overeating?
- c. How do friends and family fit in to your compulsive overeating?

8. Is there anything we didn't cover that you want to talk about?