Self-presentational Motives in Eating Disorders: A known Groups Difference Approach

by

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Self-Presentational Motives

Abstract

Self-presentation reflects the processes by which individuals attempt to monitor and control the impressions others form of them (Schlenker & Leary, 1982). Concerns over impressions conveyed have been linked to numerous health behaviors (Crawford & Eklund, 1994; Martin, Leary, & O’Brien, 2001). The present study investigated the role of cognitive manifestations of dispositional and situational self presentational motivation (SPM) in 131 females with known groups differences on a measure of eating disorders. Participants were classified as in-treatment (IN = 39); at risk (AT = 46); and not at risk (NOT = 46) for eating disordered behaviour. Each participant completed The Brief Fear of Negative Evaluation Scale (FNE; Leary, 1983), the Public Self-Consciousness Scale (PSC; Fenigstein, Sheier, & Buss, 1975), and the Social Physique Anxiety Scale (SPA; Hart, Leary, & Rejeski, 1989), as measures of dispositional SPM. Situational SPM was assessed through Self-Presentational Efficacy (SPE; Gammage, Hall, & Martin, 2004), and the Exercise Motivation Inventory-2 (Markland & Ingeldew, 1997). Significant differences emerged on the measure of eating disorder behaviour between AT and NOT. To determine if group differences existed on measures of trait SPM an ANOVA was conducted. Results indicated that the NOT group experienced less FNE, PSC and SPA than the IN and AT groups, and the AT group experienced less FNE and PSC than the IN group. Pearson bivariate correlations were conducted on measures of trait SPM and EMI-2 subscales theoretically linked to SPM. It was found that FNE, PSC and SPA were all positively correlated with weight management for the NOT group. To determine if group differences existed on self-presentational exercise motives independent samples t-tests were conducted. Results revealed that the AT group was more motivated to exercise for weight management, and appearance, and social recognition than the NOT group. To determine if group differences existed on the state measure of self-presentational efficacy a series of ANOVA’s were conducted. Results revealed
of self-presidential motives on eating disorders and future research directions are discussed.

An eating disorder is known as a disorder in which a person has a unhealthy or extreme concern with their weight or body shape, causing them to eat too much or too little. Potential applications of the influence of self-presidential motives on eating disorders are discussed in the research.

In the IN group, self-presidential motives appear to have an influence on females who have not been identified in the AT group from the IN group. This suggests that self-presidential motives can be a factor in predicting group membership. Results revealed that 63.4% of participants were correctly classified with SpA, PSCP, and FNE differential predictions. Thus, self-presidential motives significantly predict self-presidential motives. Finally, a discriminant function analysis revealed that the NOT group experienced significantly greater self-presidential motives.
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CHAPTER ONE: THE PROBLEM

Introduction

Eating disorders are considered one of the most serious psychological problems facing millions of North Americans today. It is uncommon to find someone who has not been affected by these potentially deadly disorders either directly or indirectly. It is estimated that one to five percent of the population meets clinical diagnostic criteria for anorexia nervosa, and 2 - 18% meet clinical diagnosis for bulimia nervosa (Zerbe, 1995). In Canada (Statistics Canada, 2004) it is estimated that 3.8% of women between the ages of 15 and 24 and 2.9% between the ages of 25 and 64 are at risk for the development of an eating disorder.

According to the Diagnostic and Statistics Manual of Mental Disorders (APA, 2000) eating disorders are classified into three categories: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorders Not Otherwise Specified. General characteristics of eating disorders include extreme emotions, attitudes, and behaviours surrounding food and weight issues. Serious emotional and physical problems that can have life threatening consequences may also accompany these disorders (Fairburn, 1998).

The etiology of an eating disorder is a function of numerous interacting variables which include biological/genetic influences, socio-cultural ideals, and psychological mechanisms. Biological factors include: body weight and appetite regulation, metabolism, gender, temperament and impulsivity (Steiger & Seguin, 1999). Socio-cultural influences help shape our attitudes about appearance and include unrealistic ideals of thinness and beauty that are conveyed through magazine covers, television, and movies (Zerbe, 1995). Psychological characteristics linked to eating disorder behaviour include: low self-esteem, perfectionism, depression, need for control and need for social approval (Robert-MacComb, 2001).
While no one is immune to the factors which contribute to the etiology of an eating disorder, most do not succumb to their cognitive and behavioural manifestations. Those who do may share common characteristics, one of which may be a high need for social approval (Beren & Chrisler, 1990; Katzman & Wolchik 1984; Mukai, Kambara, & Sasaki, 1998; Pliner & Haddock, 1996). Social approval can be defined as the need for favorable evaluations from others (Martin, 1984) or the fear of negative evaluations from others (Watson & Friend, 1969).

Social approval is inherently linked to self-presentation -- the process by which individuals attempt to monitor and control the impressions others form of them (Leary, 1992; Schlenker & Leary, 1982). Those higher in self-presentational concerns may be more likely to use strategies to protect their sense of self or well being (Schlenker & Leary, 1982). These strategies can be broadly labeled as ego-enhancing or ego-protecting. Behaviours designed to create a desirable image serve an ego-enhancing function (e.g., working out to portray a fit image) whereas ego-protecting behaviours are those designed to minimize the chances of conveying an undesirable impression (e.g., minimizing social contact with others). As a result, the need for social approval may result in an individual engaging in strategies designed to present a desired impression.

When people are motivated to present a specific impression, but doubt their ability to do so, social anxiety may be experienced (Schlenker & Leary, 1982). Clinical studies have consistently shown that well over half of individuals with eating disorders report the presence of an anxiety disorder -- of which one specific sub-category is social anxiety (Bulik as cited in Fairburn & Brownell, 2002). Statistics reported on an extreme form of social anxiety (social phobia) demonstrate a lifetime prevalence rate of 33.9% in those with anorexia nervosa (Halmi et al., 1991) and 17% for those with bulimia nervosa (Brewerton, Lydiard, Ballenger, & Herzog,
The onset of anxiety disorders usually precedes the onset of an eating disorder (Bulik, Sullivan, Fear, & Joyce, 1997). Assuming the link between self-presentation cognitions/behaviours and social anxiety, an enhanced understanding of the etiology of the disorder may be offered.

**Framework for understanding self-presentation**

Leary and Kowalski (1990) suggested that the impressions that people try to convey are affected by two discrete sets of processes (see Table 1). First, *impression motivation* reflects how motivated people are to control how they are perceived in a particular social encounter. The degree to which people are motivated to self-present is influenced by a variety of dispositional and situational factors. The dispositional (trait) perspective is the traditional, classic approach to the psychological study of personality (otherwise known as an individual differences approach). Dispositional factors can be defined as enduring, highly consistent internal attributes across a variety of situations (Carver & Scheier, 2000). The dispositional approach creates a classification system for describing psychological characteristics for which people differ consistently between situations and over time (Carver & Scheier, 2000). Personality traits are consistently found across people and over time and are dimensions of thinking, behavior, and feeling and allow people to be placed in a continuum with respect to different traits. There are two major assumptions underlying a dispositional approach: 1) stability of personality (people display consistency in their actions, thoughts, and feelings between situations and over time) and 2) differences between people. The composition of dispositions varies from person to person. Each person’s personality consists of a pattern of dispositional qualities which form a unique combination in each person.
Mischel (1968) challenged the assumption that personality determined behaviour, and instead claimed that people's behaviour from situation to situation was variable and depended on the situational circumstances. According to Mischel (1968) situational factors or states can be defined as the psychological reaction to a situation in which an individual finds himself or herself that is consistent with the individual's traits. In other words, the "situation" view is that behaviour depends on the situation itself, whereas the individual differences approach (trait) suggests that behaviour is consistently displayed no matter what the situation.

One dispositional influence of impression motivation is level of impression motivation and monitoring. For example, a person who experiences social anxiety may have a greater need to create a socially desirable image than a person who does not experience social anxiety.

Situational influences that motivate individuals to engage in self-presentation are captured in three processes. First, the discrepancy between current and desired image should be considered. For example, a person may begin dieting to lose a few pounds because they do not feel their current image is consistent with their perceived ideal. Second, the importance of the desired impression to the achievement of one's goal should be considered. For example, the extent to which it is important to be viewed as having a thin physique to gain social approval influences the extent to which self-presentational behaviours will be adopted. Finally, the value of the goal (i.e., the degree to which making a particular impression will facilitate the achievement of desired goals) is influential. Consequently, self-presentation motivation (SPM) is an important behavioural determinant when individuals desire to control others' perceptions.

*Impression construction* refers to the active process by which people decide which image to present (e.g., deciding to dress like an exerciser to portray an image of a fit person) and how she or he will make that impression (Leary & Kowalski, 1990). It is therefore, the process
through which people create a public image. Again, dispositional and situational factors are influential. The content of people’s self-presentations is affected by their beliefs about what images are desirable and undesirable and their self-concept. For example a person might believe that our culture idealizes the thin, fit model physique, and views this body type as a symbol of health and success. That same person may not believe that he or she has this cultural ideal so he or she may begin dieting or engage in excessive exercise to try to conform to this image.

Situational influences identified include target values, social role constraints, and their current social image. For example, when placed in a situation where one is in the presence of others who are considered powerful, esteemed, attractive, or high in status, one may dress a certain way or speak in a different way then they would with their friends in order present a specific image. For the purpose of this study only self-presentation motivation will be considered. All other variables fall beyond its purview.

**Self-Presentation Motivation**

Individual differences in the extent to which people are motivated to self-present are represented by constructs such as fear of negative evaluation, public self-consciousness, and social physique anxiety. As deliberate self-presentation requires that individuals consider how they are being perceived by others, these constructs predict the extent to which people try to manage the impressions others form. When a person is fearful of receiving disapproval and criticism from others it is referred to as a fear of negative evaluation (FNE; Leary, 1983). In social situations, people with higher FNE appear to be prone to engaging in self-presentational behaviours (Leary 1983; Leary, Barnes, & Griebel, 1986; Watson & Friend, 1969). In addition, restrictive eating attitudes have been linked to a heightened fear of negative evaluation (Gilbert & Meyer, 2003).
Public self-consciousness (PSC; Fenigstein, Scheier, & Buss, 1975) is the awareness or sensitivity a person may experience from the impressions and/or opinions of others. People high in PSC think more about aspects of themselves that are observable to others including appearance (Carver & Scheier, 1981). For example, a person with a high level of PSC may double (or even triple) check his/her appearance in the mirror prior to leaving the house. As a result, those with high PSC demonstrate greater awareness of other people’s impressions of them, are more concerned with impression management, and worry more about people’s evaluations of them (Leary & Kowalski, 1990; Solomon & Schopler, 1982).

When social anxiety is experienced in relation to the evaluation of the body, it is called social physique anxiety (SPA; Hart, Leary, & Rejeski, 1989). Due to the importance of physical appearance, positive impressions related to attractiveness and body shape/size are important dimensions coveted by females (Zerbe, 1991). Consequently, an individual's degree of body-related anxiety can be influenced by the perceived or known impressions of others and the individual's subsequent attempt to control these impressions. Further, the use of self-presentation strategies to alter appearance/physique is common (Leary, 1999; McAuley & Burman, 1993). Such strategies may have either positive or negative health benefits (Leary, 1995). On the one hand, those who want to be perceived by others as attractive may be more motivated to manage their weight than those who are not concerned with others’ evaluations. However, excessive concern with appearance may lead to unhealthy, extreme behaviours such as eating disorders. In fact, research has demonstrated a positive relationship between eating disordered behaviours and social physique anxiety (Fredrick & Morrison, 1998; Hausenblas & Mack, 1999). Taken together, the above findings suggest that these self-presentational variables influence the extent to which people manage their impressions.
Self-Presentation Exercise Motivation

One’s motivation for exercise emanates from several sources -- some of which have links to self-presentational processes. Females report exercise motivations that originate from self-presentational concerns, which include weight concerns, appearance, and body shape and tone (Bane & McAuley, 1998; Crawford & Eklund, 1994; Frederick & Morrison, 1996; Leary, 1999; Martin & Shaffer, 2002). Furthermore, physical activity has been linked to self-presentational benefits. Martin, Sinden, and Fleming (2000) demonstrated that people rated exercisers more favourably than non-exercisers.

The extent to which these motives differ in type or magnitude for those with eating disorders (compared to different populations) has been investigated. Initially, many individuals with eating disorders begin exercising to lose a few pounds or to become more toned and fit, and many start exercising before they even begin dieting (Beaumont, Arthur, Russell, & Touyz, 1994). These motives are quite similar to those of the general population, however those with eating disorders can often become obsessed with exercise and it becomes a ritualistic and compulsive routine (Davis, Fox, Cowles, Hastings, & Schwass, 1990). An obsession with physical activity or over-exercising may be an early indicator of those individuals who may be “at risk” for the development of an eating disorder (Matheson & Crawford-Wright, 2000). It has been noted that individuals with eating disorders often take exercise one step further and begin to abuse physical activity, using it as a form of weight control (Davis, Katzman, & Kirsh, 1999). According to Leary (1995) weight control is just one example of an external motivator to engage in exercise behaviours for self-presentational purposes.

With the above demonstrating that for some exercise often predates the onset of eating disorders and is integral to their maintenance, particular aspects of exercise behaviours may be
influential in the development of eating disorders. Exercise motives may be one such aspect. Research has reported significant moderate positive correlations between exercise motives related to weight control, tone, and attractiveness and eating disordered behaviour (McDonald & Thompson, 1992; Mond, Hay, Rodgers, Owen, & Beaumont, 2004). Exercising for mood, health, enjoyment, and fitness (all measures not theoretically linked to self-presentational concerns) were not related to eating disorders. Further, those who reported exercising primarily to “work off” the food they had consumed reported Drive for Thinness scores over three times higher than those who engaged in exercise for other reasons (Hubbard, Gray, & Parker, 1998).

Self-presentational Efficacy

Self-efficacy refers to the confidence in one's ability to behave in such a way as to produce a desirable outcome (Bandura, 1977). Self-efficacy makes a difference in how people feel, think, and act. Concerning physical activity, self-efficacy expectancy, outcome expectancy, and outcome value are important in the initiation and maintenance of a variety of exercise programs (Brawley & Rogers, 1993; McAuley & Courneya, 1993; Poag-Ducharme & Brawley, 1993; Rogers & Brawley, 1991).

Leary (1983) proposed the term self-presentational efficacy as the probability of conveying desired impressions to others. Self-presentational efficacy is the interaction between three distinct constructs. First, self-presentational efficacy expectancy (SPEE) reflects the belief that one can present the desired impression, or perform the desired behaviour. For example, how confident a person is at portraying the image of an exerciser. Second, self-presentational outcome expectancy (SPOE) refers to the belief regarding which impressions and behaviours will lead to desired outcomes (i.e., by exercising regularly a person will believe that others will see him/her as a fit and healthy person). Finally, the importance placed on the outcome (e.g.,
how important it is to be viewed as someone who is fit and healthy) is reflected in self-presentational outcome value (SPOV). Self-presentational efficacy has been linked to social anxiety and other self-presentational motives (Gammage, Hall, & Martin, 2004; Maddux & McAuley, 2001; Maddux, Norton & Leary, 1988).

**Summary**

There can be no question that those who engage in eating disordered behaviours are influenced by the opinions of others. Consequently, those who engage in eating disordered behaviours may be more likely to experience cognitive manifestations associated with self-presentation. In other words, they may be more motivated to engage in self-presentational processes as an attempt to monitor how they are perceived by others. The role of self-presentation motives in individuals with an eating disordered and individuals at risk for an eating disorder should not be ignored and deserves further investigation.

**Statement of the Purpose**

The purpose of the investigation was to examine various trait and state cognitive manifestations of self-presentation motivation (FNE, PSC, SPA, SPE, SPEM) across three groups (in-treatment, at risk, not at risk) which have known differences on measures of eating disordered behaviours.

**Hypotheses**

To this end the following hypotheses were tested:

H₀: There will be no significant differences in global trait self-presentation motivation across the three groups.

H₁: There will be significant differences found in global trait self-presentation motivation (FNE, PSC) across the three groups. Specifically the eating disordered sample will report higher global
trait self-presentation motives than the “at risk” and “not at risk” samples. Further, the “at risk” group will report significantly higher FNE and PSC scores than those classified as “not at risk”.

H0: There will be no significant differences in trait-physique self-presentation motivation (SPA) across the three groups.

H2: There will be significant differences found in trait-physique self-presentation motivation across the three groups. Specifically the eating disordered sample will report higher trait-physique self-presentation motivation than the “at risk” and “not at risk” samples. Furthermore, the “at risk” group will report significantly higher SPA scores than those classified as “not at risk”.

H0: There will not be a significant relationship between exercise motives and trait self-presentation motivation across the “at risk” and “not at risk” groups.

H3: There will be a significant relationship between exercise motives and trait self-presentation motivation across the “at risk” and “not at risk” groups. Specifically, exercise motives will be positively correlated with self-presentation motivation for the “at risk” and “not at risk” groups.

H0: There will be no significant differences in state self-presentation motivation to exercise across the “at risk” and “not at risk” groups

H4: There will be significant differences in state self-presentation exercise motives across the two groups. Specifically, the at risk sample will report higher self-presentational motives to exercise than the “not at risk” sample across measures linked to appearance and weight control.

H0: There will be no significant differences across the three groups on the measure of self-presentational efficacy.
H₅: Significant differences between the three groups will be found on the measure of self-presentational efficacy. A directional hypothesis was not advanced as theoretical/empirical literature forms no suggestion as to where the differences may lie.

H₀: Trait motives to self-present will not predict group classification.

H₆: Trait motives to self-present will positively predict group classification.

Definitions of Terms

Understanding the purpose of this investigation cannot go without explanation of several key terms. Conceptual definitions are identified and (where necessary) operational definitions included.

1. Grouping Variables

A) In treatment eating disorder (IN): The eating disordered group is defined by their involvement in an in-patient treatment program. Those classified as “in treatment” will broadly incorporate all three eating disorder classifications which are: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorders Not Otherwise Specified (APA, 2000).

B) “At risk” sample (AT): An individual identified as a part of a non-clinical population who may be suspected to have, or be prone to developing an eating disorder. Specifically the “at risk” group was defined by a score of ≥ 14 on the subscale Drive for Thinness of the Eating Disorder Inventory-2 (Garner, 1991).

C) “Not at risk” sample (NOT): An individual who was determined to be “not at risk” for an eating disorder. For this study the predetermined cutoff score for the not at risk group was a score of < 14 on the subscale Drive for Thinness of the Eating Disorder Inventory-2 (Garner, 1991).

2. Self-presentation motivation variables
A) Self-Presentation Motivation (SPM) is defined as an individual’s desire to control others’ perceptions of him or herself (Schlenker & Leary, 1982) and was assessed across two trait dimensions. First the Public Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975) was used to assess people’s tendency to monitor the public aspects of themselves. Second, the Brief Fear of Negative Evaluation Scale (Leary, 1983) assessed people’s fearfulness of receiving disapproval and criticism from others.

B) Social Physique Anxiety (SPA) is defined as the anxiety that people experience when others are evaluating their physiques (Hart et al., 1989). SPA was measured using the Social Physique Anxiety Scale (Hart et al., 1989) which assessed trait anxiety associated with other’s evaluations of one’s body.

3. Self-presentational exercise variables

A) Exercise Motivation (EM) is defined as the direction or intensity of one’s effort or behaviour in physical activity settings (Deci & Ryan, 1985). SPEM was measured by seven subscales deemed to be most relevant to self-presentation in the Exercise Motivations Inventory – 2 (Markland & Ingeldew, 1997) including: social recognition, affiliation, competition, weight management, appearance, strength and endurance, and nimbleness.

B) Self-Presentational Efficacy (SPE) is defined as the probability of conveying desired impressions to others. It includes: self-presentational efficacy expectancy (the belief that one can present the desired impression or perform the desired behaviour), self-presentational outcome expectancy (the belief regarding which impressions and behaviours will lead to the desired outcomes), and self-presentational outcome value (the importance placed on the outcome) (Gammage et al., 2004; Leary, 1983). SPE was measured using a modified version of the Self-Presentational Efficacy Scale specific to an exercise environment (Gammage et al., 2004).
Significance of the Study

Self-presentational concerns have been connected with higher scores on measures of eating disordered behaviours in non-clinical samples (Bas, Asci, Karabudak, & Kiziltan, 2004; Diehl, Johnson, Rogers, & Petrie, 1998; Fredrick & Morrison, 1996; Hausenblas & Mack, 1999; Hewitt, Flett, & Ediger, 1995). To date, limited research has been conducted on self-presentational concerns within an eating disordered population (i.e., Striegel-Moore, Silberstein, & Rodin, 1993). This study is unique as research has not been conducted in which trait and state self-presentational motives are compared across groups with known differences existing on measures of eating disordered behaviours. Furthermore, the literature available on self-presentational motives for physical activity in populations “at risk” for eating disorders and “not at risk” is sparse, thus further investigation was warranted.

Therefore the primary investigation of the self-presentation variables within an eating disordered population and at risk population provided an enhanced understanding of the eating disordered population as well as provided insight into the motives for exercise across known groups.
CHAPTER TWO: REVIEW OF LITERATURE

Introduction

In the September 2000 issue of People Magazine a cover story was published on “The Search for the Perfect Body”. The magazine polled 1000 women between the ages of 18 and 55 and asked how the images of Hollywood’s svelte stars influenced their self-esteem. Eighty percent said these images made them feel insecure about their looks. Behavioural implications may also be inferred, as 93% percent of respondents had tried to lose weight, 34% had (or had considered) cosmetic surgery, and 34% indicated they would try a diet even if it posed a health risk (Dam, 2000). The term weight preoccupation encompasses a variety of physique-related concerns including body image, eating disorders, and obsessional tendencies with diet and food. In the last twenty years Western culture has seen a dramatic increase in the number of young women and men suffering from weight preoccupation and body dissatisfaction.

Eating Disorders

Three classifications of eating disorders have been recognized by the American Psychiatric Association: Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disorders Not Otherwise Specified (EDNOS; APA, 2000). Anorexia Nervosa is characterized by an individual’s refusal to maintain a minimal body weight, an intense fear of gaining weight, significant disturbance in the perception of the shape or size of his or her body and in post-menarche females, the development of amenorrhea. Bulimia Nervosa is characterized by repeated episodes of binge eating (eating an abnormally large amount of food at one time) followed by behaviours designed to eliminate food from the body (e.g., self-induced vomiting, fasting or excessive exercise). Bulimia Nervosa consists of recurrent episodes of binging and purging averaging at least twice per week. EDNOS includes: binge-eating disorder, compulsive
exercising, and other symptoms of disordered behaviour that cannot be classified into either the anorexic or bulimic categories.

Eating disorders are complex psychological disorders whose onset may be influenced by genetic/biological factors, psychological mechanisms, and socio-cultural factors (Epling & Pierce, 1988; Garfinkel, Garner, & Goldbloom, 1987; Sundgot-Borgen, 1994). While attention to many of these factors is beyond the scope of this review, psychological factors are important and include: distortion of body image, depression, obsessiveness, perfectionism, low self-esteem, low self-concept, need for social approval, and high levels of social anxiety (Hinrichsen, Waller, & van Gerko, 2004; Hinrichsen, Wright, Waller, & Meyer, 2003; Robert-MacComb, 2001). For the purpose of this thesis the psychological mechanisms of interest will be discussed through various cognitive manifestations of self-presentational motives.

**Self-presentation**

Self-presentation is defined by Leary (1992) as the process by which people control how they are perceived and evaluated by others. The influence of self-presentational concerns can be measured on a continuum. On one end, concerns over the impression being generated can be beneficial or ego-enhancing and help motivate an individual to engage in a variety of pursuits (e.g., education, training). Considering health-related behaviours, self-presentational cognitions may facilitate the adoption and maintenance of a healthy lifestyle (e.g., nutrition and physical activity behaviours). On the other end of the continuum self-presentation can be negative. An individual who is concerned about portraying an undesirable impression may engage in ego-protective behaviours to minimize the risk of displaying the unwanted image. For example, Bordo (1993) suggested that for females self-presentational concerns are influenced by the
cultural environment in which we live. Consequently, extreme measures (e.g., restricted caloric intake, excessive exercise) may be undertaken in an attempt to attain a lean physique.

**Self-presentational framework**

Leary and Kowalski (1990) developed a two-component model to explain factors associated with self-presentational processes (see Table 1). This framework influenced the research questions asked, the hypotheses generated and the conclusions reached in the present study. According to the self-presentational framework people are influenced by two distinct processes, namely impression motivation (IM) -- the process by which people are motivated to control the image they present to others in a particular context, and impression construction (IC) -- the process by which people decide which image to present. Both processes are influenced by dispositional and situational factors. One dispositional influence under impression motivation is the level of impression motivation and monitoring. The concern a person experiences from the evaluations from others and the extent to which they monitor their self-presentation can differ in magnitude among different people. For example people who feared negative evaluations from others were more motivated to work harder on tasks that were boring when they believed that their work was going to be evaluated by others (Watson & Friend, 1969). Similarly, people with a heightened awareness or sensitivity to the opinions of others (public self-consciousness) may be concerned with social approval/disapproval, experience social anxiety when the evaluation is specific to their physique (social physique anxiety) and therefore monitor their behaviours to suit situational norms (Crowne & Marlowe, 1960; Leary, 1983b).

Situational influences that motivate individuals to engage in self-presentation (impression motivation) are captured in three processes. First is a discrepancy between current and desired image (the greater the discrepancy the greater the motivation). For example a person may begin
dieting to lose a few pounds because he/she does not feel their current image portrays the socially desirable image of the thin models portrayed in magazines. A second situational factor is the importance of the desired impression to the achievement of one’s goal (self-presentational outcome expectancy). The more the image is important to a person the greater motivation to create that impression he/she will have. For example a person may begin dieting and exercising because it is important that he/she is viewed as thin and athletic to gain social approval and acceptance. The final situational influence identified centres on how much value is placed on the goal (self-presentational outcome value). The greater the value placed on the outcome, the greater the motivation will be to achieve that outcome.

The dispositional influence of impression construction is reflected in beliefs about what images are desirable and undesirable and one’s self-concept. For example a person might believe that our culture idealizes the thin, fit model physique, and views this body type as a symbol of health and success. That same person may not believe that he/she have this cultural ideal so he/she may begin dieting or engage in excessive exercise to try to conform to this image.

Situational factors also influence impression construction. One such influence is the target’s values (or the values of the audience/people present). For example, when placed in a situation where one is in the presence of others (i.e., peers) who value the culturally thin, fit physique, one may experience increased motivation to present this image based on peer values. Role constraints are reflected in the role an individual occupies in a given situation and can encourage/discourage a person from conveying a desired/undesired image. For example an aerobics instructor may be viewed as a person who is fit, athletic, healthy, confident and outgoing. However, if an instructor does not feel they fit the image of this role they may try to be outgoing (i.e., talk loudly and to everyone) to try and construct this image. One final
situational influence is one’s current social image. If a positive social image is achieved, a person will work toward maintaining this positive image when it is socially acceptable. For example when interviewing for a job, a more professional image may be desired. This image may be constructed through appropriate attire, having a clean shaven face or wearing makeup. For the purpose of this study only self-presentation motivation will be considered. All other variables fall outside the scope of this study.

Self-presentation motivation and health behaviours

In a review of relevant research, Leary, Tchividjian and Kraxberger (1994) implicated self-presentation motives in the adoption and maintenance of various health behaviours. For example, those more concerned with appearance-related impressions were more likely to engage in tanning as this look is associated with heightened ratings of attractiveness. Given the link between sun-exposure and skin cancer, those who were more motivated by appearance may be at increased risk for skin cancer. Further, self-presentation motives differed between those who had cosmetic surgery for appearance versus health-related motives (Culos-Reed, Brawley, Martin & Leary, 2002). Higher self-presentation motivation was associated with those who elected surgery for appearance reasons compared to those who received treatment for health related reasons.

Martin and Leary (2001) looked at the influence of self-presentation concerns and health risk behaviour in a sample of undergraduate students. Participants completed measures of self-presentation motivation followed by an assessment of ten health-risk behaviours over a three month period. Seventy-five percent of respondents were motivated to engage in at least one health risk behaviour to impress their peers. Further, self-presentation motivation predicted
i^'...
(albeit weakly) those who were more likely to engage in health risk behaviours for both males and females.

In other research Martin, Leary, and O'Brien (2001) assessed the extent to which adolescent ($N=183$) engagement in health behaviours was influenced by self-presentation motivation. Results determined that the self-presentational motives were positively related to the health behaviours for males and females. Specifically for females, motives for drinking and exercising were positively related to dispositional measures of self-presentation motivation. For males, physical inactivity and smoking were also positively associated with self-presentation. It was concluded that adolescents who were more concerned with evaluations from others were more at risk for engaging in negative health behaviours.

Concern over others' impressions is not restricted to adolescents and young adults. In their review, Martin, Leary and Rejeski (2000) concluded that older adults impression manage based on their age and natural situations associated with the aging process. Specifically, self-presentational concerns were experienced across three areas: physical appearance, physical/psychological competence and self-reliance, and behavioural norms (e.g., concern over loss of hair, wrinkling of skin, muscular control). For example, people with hearing loss are left with the decision to conceal or publicly acknowledge their impairment. Those who choose to impression manage and conceal their hearing loss “run the risk of being viewed as someone who is unfriendly, uncooperative, oblivious or senile” (Martin et al., 2000). On the other hand, embarrassment and unwanted attention may result from admitting to their disability.

**Self-Presentation and Food Intake and Dieting**

Self-presentational concerns are extremely influential in the area of dieting and food intake, although the directionality of its affect is influenced by the operational definition. For
example Hayes and Ross (1987) examined concern for appearance as a motivating factor in eating healthy low calorie diets. Four hundred participants responded to a survey targeting issues of eating habits, health beliefs and concern for appearance. It was found that concern for appearance positively but weakly predicted eating habits. If a person was more concerned about his/her own appearance he/she demonstrated better eating habits. Gender differences were reported with females reporting better dietary intake due (in part) to the fact that they were more concerned about their appearance than men were.

In other research Mori, Chaiken, and Pliner (1987) examined differences in food intake when in the presence of a member of the same or opposite sex. Ninety six female and male participants were placed into scenarios where they were instructed to get acquainted with their paired partner. A pre-rehearsed monologue was provided to each participant. Results indicated that female participants restricted their eating in the presence of a desirable male partner compared to one considered less desirable. No differences were found between food intake and perceived desirability for males. The researchers concluded food intake was more self-presentationally salient in situations for females than males. Females restricted food intake out of a concern for appearing socially polite when interacting with the opposite sex partner.

Other research in the area of eating and self-presentational concerns was conducted by Clendenen, Herman, and Polivy (1994). It was hypothesized that the presence of others, group size, and the specific relationships of those present would influence one’s eating behaviours. Female participants ($N = 120$) were assigned to a group of four, pairs, or alone condition and dined with a group of strangers or a group of friends. The groups watched a movie together and then were provided with a meal following the movie. Results of the study found that participants ate more (almost doubling the intake) when they ate in groups of four or in pairs than when they
ate alone. It was also found that those participants who were with friends were found to consume more dessert items than those who were with strangers. Based on the results of this study self-presentation concerns negatively influenced food intake (nutrition).

In one final study examining self-presentation and eating behaviours Roth, Herman, Polivy, and Pliner (2001) examined differences in appropriate eating behaviour in social situations. Female participants ($N = 152$) sampled cookies while eating alone or while observed. Each participant was randomized into one of three conditions and given information regarding eating patterns of others in the group. Further group classification was conducted based on whether a person was considered a dieter or a non-dieter. In the no-norm condition participants were provided with no information about how much other participants in the study had eaten, the second group (inhibition norm) was led to believe that other participants had eaten minimal amounts and the third group (augmentation norm) was told that others had consumed a large amount. The results of the study determined that those who were left alone to eat ate more in the condition where they were aware that the rest of the group ate a larger amount than those in the other two conditions. It was also found that when the non-dieting participants were observed they ate less regardless of their knowledge of the norms, and dieters were influenced similarly by the normative information. Self-presentational concerns have a significant negative impact on the level of food intake or nutritional eating habits of individuals.

The influence of self-presentation has been found to extend from food intake to dieting behaviours. Akan and Grilo (1994) examined sociocultural influences on eating attitudes and behaviours, psychological functioning, and body image among three distinct cultural groups. Ninety-eight participants (28 Caucasian, 35 African-Americans, and 34 Asian-Americans) completed measures of self-presentation (public self-consciousness and social anxiety) and
eating attitudes. Results of the study determined Caucasians had higher disturbed eating attitudes, dietary restraint, eating concerns, and body dissatisfaction scores than the other two groups. There were no significant differences found between the three groups on the measures of public self-consciousness and social anxiety. For all three groups public self-consciousness was positively correlated to negative eating attitudes, fear of fatness and body dissatisfaction.

Martin et al. (2001) assessed the extent to which adolescent \( N = 183; n_{\text{females}} = 87 \) engagement in health behaviours (i.e., dieting) was influenced by self-presentation motivation. Significant differences were found among females for self-presentational motives based on dieting behaviour (i.e., dieters, regulators, and unrestrained eaters). Specifically, dieters reported higher scores on social physique anxiety and public-self-consciousness than regulators and unrestrained eaters. Dieters also reported significantly greater fear of negative evaluation than regulators. Conclusions drawn from the study indicated that female adolescents who were more concerned with others' evaluations of their bodies were more at risk for developing negative dieting behaviours.

**Self-Presentation and Eating Disorders**

Self-presentational concerns have been shown to have a positive and negative impact on food intake (nutrition) and dieting. However, when dieting is taken to extremes it can lead to the development of an eating disorder. Therefore the next natural link to explore is the impact that self-presentational concerns have on eating disorders.

Rezek and Leary (1991) examined the relationship between drive for thinness, perceived control, and food consumption. Forty female undergraduates who scored either low (a score of 0) or high (a score of 8-21) on the drive for thinness scale of the Eating Disorders Inventory (Garner & Olmstead, 1984) were led to believe that they were participating in two separate
studies. In the first phase of the study participants were randomized into two groups where perceived control was manipulated — one group experienced low control over a social situation and the other high control over a social situation. Results of the study determined that the women with high levels of anorexic tendencies (drive for thinness) and low control ate less sweetened cereals, reduced how much they ate, and were less likely to intend to eat dinner than the high drive for thinness group with high control. The study concluded that self-presentational failures such as lack of control over a social situation can in turn affect the eating behaviours of those predisposed to eating disorders.

Gross and Rosen (1988) were interested in examining various psychosocial influences and bulimia nervosa in adolescents. Females and males who were classified as bulimics were found to have higher social anxiety scores when compared to those not classified as bulimics. It was concluded that social anxiety is one psychological variable which differentiates those with eating disordered tendencies from those without.

Striegel-Moore et al. (1993) extended previous research by examining self-presentational concerns and eating disorders in a non-clinical and a clinical population. In phase one females \((N = 222)\) completed measures of self-presentation (public self-consciousness, private self-consciousness and social anxiety), body-esteem, and eating attitudes. Results determined that social anxiety and public self-consciousness were negatively associated with body esteem in a non-clinical sample.

With evidence from the first phase of the study supporting the hypothesis that self-presentational concerns influence body esteem, the researchers sought to examine if this was the case in a clinical eating disorder population. In phase two, patients diagnosed with bulimia nervosa were recruited and completed the same measures described in phase one. Comparison
It was necessary to manage the complex system of the project. First, the assumptions and objectives were clearly defined. The project was divided into several phases, each focusing on a specific aspect. The team was allocated resources based on their expertise and the tasks at hand.

Throughout the project, communication was key. Regular meetings were held to discuss progress, challenges, and strategies. Feedback was encouraged to ensure alignment with the project goals. The milestones were clearly defined, allowing for periodic reviews of the project's status.

The project encountered several challenges, including unexpected delays and unexpected changes in the environment. The team responded by adapting the project plan and adjusting the resources accordingly. Despite these challenges, the project was successfully completed, delivering the expected outcomes.

The lessons learned from this project will be instrumental in future endeavors. Continuous improvement is the key to success, and this team is committed to learning from each project to enhance future performance.
groups were selected from the phase one sample and included the patient group. The groups were classified as follows: the patient group (those diagnosed with bulimia nervosa; \( n = 34 \)); the “high EAT group” (comprised of individuals who scored above cut off levels on the Eating Attitudes Test (EAT; \( n = 33 \))); and the controls (scoring below the cutoff score on the EAT; \( n = 67 \)). Results revealed that the patients and the high EAT group experienced greater public self-consciousness and social anxiety compared to controls. There were no differences found when comparing those with bulimia and the high EAT subjects. It was concluded that public self-consciousness and social anxiety differentiates those with eating disordered tendencies from those without.

In other research Cooley and Toray (2001) examined eating disturbances among college women \( (N = 225) \). Measures of eating disturbance (Bulimia scale of the EDI) and dietary restraint, body dissatisfaction and public self-consciousness were completed at the beginning of the first semester and seven months later. The results of the study concluded that those higher in bulimic tendencies and dietary restraint experienced higher public self-consciousness and body dissatisfaction between the two time points. It was concluded that those displaying eating disordered tendencies were more concerned with the opinions and impressions of others.

Research by Gilbert and Meyer (2005) sought to examine the relationship between fear of negative evaluation and eating attitudes among a female, non-clinical, eating disorder population \( (N = 91) \). Participants completed the Fear of Negative Evaluation Scale (Leary, 1983) and three subscales of the Eating Disorder Inventory (Drive for Thinness, Bulimia, and Body Dissatisfaction; Garner, Olmstead & Polivy, 1983). Results of the study determined that there was a moderate positive correlation between drive for thinness and body dissatisfaction with fear of negative evaluation. Regression analyses indicated that fear of negative evaluation predicted
14.9% and 13.9% of drive for thinness and body dissatisfaction respectively in this sample. The study concluded that fear of negative evaluation has a link to eating attitudes in general.

In a follow up study, Gilbert and Meyer (2005) sought to examine the longitudinal relationship between fear of negative evaluation and eating attitudes among a female university population \( (N = 197) \). Participants completed a battery of assessments designed to test psychological functioning and eating attitudes and behaviours at two time points, 33 weeks apart. No significant differences were found over time. Correlational analysis revealed a weak positive correlation between fear of negative evaluation and drive for thinness. Results also determined that those individuals with high fear of negative evaluation scores and depression were more likely to develop bulimic attitudes over the academic year. The study determined that individuals may adopt unhealthy eating behaviours in order to deal with their fear of negative evaluation.

*Social Physique Anxiety*

Research has demonstrated the link between more global measures of self-presentation motivation and eating disordered behaviours (Cooley & Toray, 2001; Gilbert & Meyer, 2005; Striegel-Moore et al., 1993). One form of self-presentation motivation that is specific to the body is social physique anxiety. Hart et al., (1989) describe social physique anxiety (SPA) as the concern that others are negatively evaluating one’s body or physique. While not necessarily negative, those reporting high levels of social physique anxiety may suffer from disturbed eating behaviours and body dissatisfaction (Crawford & Eklund, 1994; Leary, 1992). Eating disorders are partially the result of concerns about body appearance, and as a result people are willing to do anything to promote a positive self-image (Leary & Tangney, 2003).
**Social Physique Anxiety and Eating Disorders**

Social physique anxiety has important implications for health behaviours. First, those with higher levels of social physique anxiety may be less likely to engage in physical activity, due (in part) to the social evaluation that coincides with participation in physical activity (Crawford & Eklund, 1994; Eklund & Crawford, 1994, Spink, 1992, Yin, 2001; Walton & Finkenberg, 2002). Social physique anxiety can also promote extreme and unhealthy behaviours like eating disorders. A substantial amount of research has identified the link between more global measures of self-presentation motivation and eating disordered behaviour. Similarly, the relationship between SPA and eating disordered behaviour has received considerable research attention, most notably across samples that varied in their athletic status.

The social physique anxiety-eating disorder relationship in undergraduate populations has been investigated across numerous variables linked to eating disordered behaviours. Hasse and Prapavessis (1998) sought to determine the relationship between social physique anxiety and disordered eating in an undergraduate population ($N = 85$). After controlling for social desirability, results revealed that social physique anxiety scores were moderately positively related to abnormal eating attitudes among the female undergraduate population, but not the male population. Further support for the above was offered by Fredrick and Morrison (1998) as traits linked to eating disordered behaviour (drive for thinness, bulimia, and body dissatisfaction) were significantly, moderately related to SPA.

Researchers have extended the above to include a more diverse set of variables linked with eating disordered behaviours. Diehl et al. (1998) surveyed 160 female undergraduate students using measures of bulimic symptomology, eating attitudes, social physique anxiety, self-esteem, depression and obligatory exercise. Regression analyses determined that social
physique anxiety and depression significantly predicted bulimic symptomology. Social physique anxiety was also the strongest predictor (accounting for 15% of the variance) in anorexic eating attitudes. Consequently, social physique anxiety was deemed to be a significant contributor to eating disorder tendencies in undergraduate females.

Bas et al. (2004) examined eating attitudes and psychological characteristics among Turkish university students. Four hundred and fifty-seven females and 326 males were administered measures of eating attitudes and behaviours, self-esteem, social physique anxiety, and state-trait anxiety. It was found that 11.5% of the sample experienced disturbed eating patterns, and these disturbances were more common in females than males (13.1% and 9.2% respectively). Those who were determined to have disturbed eating also experienced lower self-esteem, higher trait anxiety, and higher social physique anxiety.

Substantial research has supported the relationship/predictive ability between social physique anxiety and measures of eating disordered behaviour. For example, Hasse, Prapavessis, and Owens (2002) examined the relationship between perfectionism, social physique anxiety and disordered eating in male and female elite athletes (N = 316). For the female sample (n = 181) a significant moderate positive relationship was found between SPA and disturbed eating attitudes. This relationship did not hold for males. Regression analyses revealed that for the females, negative perfectionism and social physique anxiety explained 41% of the variance in disturbed eating attitudes with social physique anxiety uniquely contributing 12% of the variance explained. The study revealed that social physique anxiety is an important psychosocial variable to consider when examining disordered eating in elite athletes. Similar results have been reported by other research (e.g., Cox, Lantz, & Mayhew, 1997; Doughty &

Hasse and Prapavessis (2001) further examined differences in social physique anxiety in female athletes and non-athletes (N = 251) who competed in four categories: physique salient sport athletes, weight restricted sport athletes, non-physique salient sport athletes, and non-athletes. The authors concluded that type of sport activity was not a significant moderator of the social physique anxiety-eating disorder relationship as no significant differences were found across the four groups. The ANOVA failed to reach significance which suggested that social physique anxiety was similar across all four groups. Therefore the study suggested that the type of sport activity does not moderate a relationship between social physique anxiety and eating disordered behaviours.

Summary

Self-presentation motivation, or the desire to have control over the impressions made on others, has been implicated in the development of negative health behaviours (Leary et al., 1994; Martin & Leary, 2001; Martin et al., 2001; Martin et al., 2000). Research has shown that self-presentational concerns play a significant role in negatively influencing nutrition, dieting and the development of eating disorders (Cooley & Toray, 2001; Mori et al., 1987; Roth et al., 2001; Rezek & Leary, 1991). Although self-presentational motivation is not specifically identified as an antecedent of eating disorders, certainly the psychosocial influences of self-presentational concerns are. An individual with excessive concern over his/her appearance who does not suit societal ideals of thinness and beauty may engage in eating disordered behaviours to try to control his/her appearance and in turn control the impressions that others have of them. By this method self-presentational concerns are a contributing factor to the development of eating
disorders. The connection between self-presentation, social physique anxiety, eating disorders and exercise stems from the notion that people regulate their weight for a variety of reasons, one of which is self-presentational in nature (Leary et al., 1994).

**Self-Presentation in Exercise and Sport**

The focus on physique and movement in sport and physical activity settings has implications for self-presentational processes across (at least) four areas (Leary, 1992). One such area is motivation to exercise to improve or maintain physical appearance, as well as to maintain a social identity of a fit or athletic person. It was suggested that fear of negative evaluation of physical appearance may deter individuals from participating in physical activity altogether. In essence self-presentational concerns may motivate or deter individuals from engaging in physical activity.

The activity one chooses to engage in may also be related to self-presentational processes. An individual who values physical strength is likely to participate in activities consistent with that image (e.g., weight lifting), as opposed to those inconsistent with that image (e.g., balance). According to Leary and Kowalski (1990) self-presentational concerns are more likely to deter people from participating in sports and activities where they may be unable to present desired impressions. For example, a person who lacks the requisite knowledge to begin a training program may not go to the gym for fear that they cannot present themselves in a favorable manner.

Leary (1992) also stated that self-presentational motives can also influence ones’ effort and exertion. An individual who is motivated to present him/herself as fit may expend more or less effort on a workout. Additionally, more effort may be expended when an individual feels he/she is being observed. For example Leary suggested that a person who is lifting weights at a
gym may force himself/herself to do more repetitions when observers are present. Effort or exertion may be increased to create a desired impression or to minimize the fear of negative evaluation. The negative implication of self-presentational processes and effort and exertion is that a person may over exert herself or place herself at risk for injury for the sake of demonstrating an ideal or desired image.

Finally, various affective responses have self-presentational implications in exercise and sport (i.e., social anxiety, sport competition anxiety, social physique anxiety). When people are motivated to present themselves in a desired way they may experience social anxiety when they believe they are unable to portray the desired image. As a result, they may avoid such anxiety provoking situations.

Self-Presentation Exercise Motives

One’s motivation for exercise can come from several different sources and include both extrinsic and intrinsic reasons for participating. Intrinsic reasons for participation include internal motives such as challenge, skill improvement, fun, and personal mastery of a task. Extrinsic reasons involve external motives such as material rewards, social status, and social approval (Finch, 2002). In an undergraduate female population weight management and appearance reasons have been found as primary motives for involvement in physical activity (Bane & McAuley, 1998; Fredrick & Morrison, 1996; Silberstein, Streigel- Moore, Timko & Rodin, 1988).

According to Garner (1997) the pressure to obtain the socially desirable thin image, and the rewards that our society provides for attaining that ideal, has resulted in people attempting to alter their body size and shape. Therefore individuals may be motivated to engage in physical activity (in part) for self-presentational reasons. Specific self-presentational exercise motives
include weight management, improving musculature, enhancing physical appearance, and developing a fit and athletic social image (Hausenblas, Brewer, & VanRaalte, 2004).

Eklund and colleagues sought to determine the relationship between social physique anxiety and exercise motives in the undergraduate female population. Results demonstrated that SPA was (at least) weakly positively correlated with three variables linked to self-presentation namely, body tone, weight control, and physical attractiveness (Crawford & Eklund, 1994; Eklund & Crawford, 1994). Similar results have been supported by other research (Williams & Cash, 2001).

Regression analyses have supported correlational research. Self-presentational reasons for exercise (weight control, body tone and physical attractiveness) significantly moderately predicted social physique anxiety with weight control making the largest significant contribution (Crawford & Eklund, 1994). Recent research by Sabiston, Crocker, and Munroe-Chandler (2005) sought to examine the relationship between current-ideal discrepancy scores, exercise motivations and social physique anxiety. Regression analyses determined that weight/appearance reasons for exercising had a significant moderate contribution in predicting social physique anxiety.

The eating disordered population may be motivated to begin exercising with similar intentions to those in the general population but for some reason the exercise program becomes something more. In its extreme, the exercise program becomes a pathogenic weight control technique (Davis et al., 1994). For example Silberstein et al., (1988) examined the relationship between body dissatisfaction, self-esteem, dieting and exercise in undergraduate females \( n = 45 \) and males \( n = 47 \). Participants completed measures of body dissatisfaction, eating attitudes, self-esteem, and reasons for exercise. Women with higher scores on the measure of eating
disturbances exercised more for weight control reasons than men. Correlational analyses were run between eating attitudes and behaviours and reasons for exercise. Results determined that there was a weak significant positive relationship between exercising for weight control and mood improvement and disturbed eating attitudes and behaviours for women. The study concluded that exercising for weight control reasons was associated with disordered eating (albeit weakly) and that those who exercise for appearance reasons rather than health reasons may also be more at risk for the development of eating disorders. Mond et al. (2004) further revealed that exercising to improve appearance and tone moderately predicted eating disorder tendencies. Additional research has supported the link between self-presentational motivation and exercise motives in those at risk for eating disorders (Davis, 1990; McDonald & Thompson, 1990).

Self-Presentational Efficacy

Self-efficacy is described as one’s perceived ability to perform a task successfully (Bandura, 1977). In an exercise environment self-efficacy can influence an individual’s choice of activity, level of effort, and persistence. Self-presentational efficacy has also been found to be a predictor of social anxiety (Leary & Atherton, 1986). Leary (1983) proposed the term self-presentational self-efficacy as the probability of conveying desired impressions to others. Self-presentational efficacy is the interaction between self-presentational efficacy expectancy (the belief that one can present the desired impression, or perform the desired behaviour), self-presentational outcome expectancy (the belief regarding which impressions and behaviours will lead to desired outcomes) and self-presentational outcome value (the importance placed on the outcome.
Gammage et al., (2004a) examined self-presentational efficacy of low and high frequency exercisers in exercise contexts. Two hundred and thirty five university female exercisers were classified into dichotomous categories based on their exercise frequency. High frequency exercisers participated in exercise three or more times per week and the low frequency exercisers participated in exercise once or twice per week. Demographic and dispositional measures of self-presentation motivation were assessed. Results determined that high frequency exercisers had higher levels of self-presentational efficacy expectancy and outcome value than the low frequency exercisers. Regression analyses revealed that self-presentational efficacy expectancy and outcome value weakly predicted social physique anxiety. It was concluded that one’s confidence in her ability to create a desired impression and the importance placed on the outcome were significantly negatively related to exercise behaviour and social physique anxiety.

Other research by Gammage, Martin-Ginis, and Hall (2004b) looked at self-presentational efficacy and its influence on social anxiety in an exercise context. Sixty-eight female exercisers completed measures of impression motivation, self-presentational and task efficacy, exercise experience, state social anxiety in exercise classes, physical appearance anxiety and social physique anxiety. Participants were placed in two groups low efficacy and high efficacy. In the low efficacy manipulation condition participants were placed in a room with mirrors, were video taped by a male confederate, and were told to wear revealing aerobics attire. In the high efficacy manipulation condition participants were placed in a room with mirrors and windows covered, video tape was setup at the front of the room on tripods, and they were asked to wear loose fitting t-shirts and shorts. Results of the study revealed that there were significant group differences on self-presentational efficacy and social anxiety. Individuals in the low efficacy group had higher state social anxiety, physical appearance anxiety, and social
physique anxiety than the high efficacy group. The study demonstrated that as self-presentational efficacy decreases (as represented by the low efficacy group) social anxiety increases.

In other research Woodgate, Martin-Ginis, and Sinden (2003) were interested in examining the relationship between social physique anxiety, physical activity and self-presentational efficacy in older women. Participants (N = 81) completed measures of physical activity frequency, social physique anxiety and self-presentational efficacy. Correlational analyses revealed that there was a significant moderate negative relationship between social physique anxiety and self-presentational efficacy with 6% of the variance in physical activity frequency being predicted by the interaction between social physique anxiety and self-presentational efficacy (with a small to medium effect).

Research by Marquez and McAuley (2001) examined the relationship between social physique anxiety, self-efficacy and outcome expectations in situations of physique evaluation. Participants (N = 103) were presented with three descriptions of situations of physique evaluation. They were then asked to choose one scenario where they felt they would be more/less likely to feel self-conscious about their physique (establishing three groups – high physical evaluation condition, low physical evaluation condition and exercise condition). Results of the study found that people in the high physical evaluation condition also experienced the highest levels of state anxiety. Similarly, those in the low physical evaluation condition had the lowest levels of state anxiety. In the case of the high physical evaluation condition, being female, and having high social physique anxiety predicted state anxiety (29%). In the exercise condition only self-efficacy predicted social anxiety (18%). In the low physical evaluation condition none of the predictor variables contributed to the variance in state anxiety.
Recently, Fleming and Martin-Ginis (2004) examined the effects of commercial exercise video models on women's self-presentational efficacy and task self-efficacy. One hundred and one female university students completed measures of exercise status, self-presentational efficacy, exercise task self-efficacy, and future exercise intentions. Participants completed initial questionnaires during the first session and watched an exercise video during the second session. Significant group differences were found regardless of exercise status. Women who viewed the "perfect exercise model" had lower self-presentational efficacy than those who viewed the "normal exercise model". It was also found that after watching the exercise videos those who were classified as non-exercisers or infrequent exercisers had lower self-presentational efficacy than those who exercised regularly. Regression analyses revealed that self-presentational efficacy explained 45% of the variance in exercise intentions (43%). The study determined that there is a relationship between self-presentational efficacy and exercise intentions. Thus exposure to commercial exercise videos with "perfect exercise models" may deter women from participating in exercise pursuits.

Summary

Ultimately people initiate and maintain exercise for a variety of reasons – some of which are self-presentational in nature. The research reviewed has demonstrated that when a person is concerned about the type of impression they are making, anxious about physique evaluation, engages in exercise for self-presentational reasons (such as appearance or weight control) and is less confident about portraying the appropriate image he/she might be at risk for the development of an eating disorder. An individual with excessive concerns over his/her appearance may engage in eating disordered behaviours to try to control his/her appearance and in turn control
the impressions made on others. Therefore, self-presentational concerns can be considered as a contributing factor to the development of eating disorders.

The research reviewed however, warrants critical review. There can be no question that those who engage in eating disordered behaviours are influenced by the opinions of others. Consequently, those who engage in eating disordered behaviours may be more likely to experience cognitive manifestations associated with self-presentational motives. The research on self-presentation motivation and its relationship to eating disordered behaviours is limited. At present only one study (i.e., Striegel-Moore et al., 1993) has actually assessed the prevalence of self-presentational motives in an eating disordered population or a population at risk for developing eating disorders and it was limited to the measure of public self-consciousness.

Although self-presentational motives have been shown to be a significant psychological factor in the development of eating disorders, research has been limited to non-clinical samples. In order to capture a broader understanding of the cognitive manifestations of eating disorders psychological variables such as fear of negative evaluation, public self-consciousness, social physique anxiety, self-presentation exercise motivation and self-efficacy need to be examined in the eating disorder population, in those at risk for eating disorders, and those not at risk for eating disorders.

Understanding the relationship between self-presentational motives and the three treatment conditions (IN, AT, and NOT) may have direct implications. Identifying self-presentational motives in the in-treatment and at risk population can provide insight into one of the factors in the onset or the etiology of eating disorders. Understanding the differences in self-presentational motives in these three groups can open the doors for alternative forms of treatment and aid in the recovery from eating disorders.
With this in mind the purpose of the investigation was to examine various manifestations of self-presentation motivation (i.e., fear of negative evaluation, public self-consciousness, social physique anxiety, self-presentational exercise motives, and self-presentation efficacy) in an eating disordered population, a population at risk for developing eating disorders and a population not at risk for developing an eating disorder.
CHAPTER THREE: METHODOLOGY

Participants

Given the nature of the research question, participants were classified according to three categories. Relevant demographic characteristics can be found in Table 2. Thirty-nine females who were clinically diagnosed with an eating disorder comprised the in-treatment (IN) condition. Twenty-three (59%) of this sample were diagnosed with Anorexia Nervosa, fifteen (38%) with Bulimia Nervosa and one (3%) with EDNOS. The at-risk (AT) group (n = 46) was comprised of female undergraduate students. Finally, the NOT group (n = 46) was comprised of female undergraduates. Two participants classified as NOT (3.6%) and eight AT (14.3%) indicated they had been previously diagnosed with an eating disorder.

Measures

Demographic Variables. Age, gender, height, weight, eating disorder diagnosis and treatment, and exercise history were reported on the questionnaire. Questions around eating disorder diagnosis and treatment were asked to determine whether the participant had previously been diagnosed with an eating disorder and if they had ever sought treatment for their eating disorder. Height and weight were based on self-report data for the AT and NOT groups. For the IN group, height and weight were collected from patient records by a trained member of the in-patient treatment team. No further analysis was conducted with these variables. Exercise history was constructed and calculated based on The Total Life Time Physical Activity Questionnaire (Friedenreich, Courney, & Bryant, 1998). Participants were asked to record their involvement in exercise and/or sport activities over their life time for at least two hours per week for at least four months of the year and asked to rate the intensity at which these activities were completed (1 = activities done while sitting; 2 = activities that require minimal effort (i.e., a light walk); 3 =
activities that are not exhausting, that increase heart rate slightly and may cause slight perspiration; 4 = activities that increase the heart rate and may cause heavy sweating). Calculations of this demographic variable were reported and were categorized by level of intensity and recorded in hours per week spent in activity. The Total Lifetime Physical Activity questionnaire has demonstrated acceptable reliability ($\alpha = .74$; Friedenreich et al., 1998).

**Eating Disorder Classification.** The Eating Disorder Inventory (EDI-2; Garner, 1991) is a 91-item self-report measure of symptoms frequently related to anorexia nervosa or bulimia nervosa. Eleven subscales assessing cognitive and behavioural manifestations of eating disorders are measured and include: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears, Asceticism (provisional), Impulse Regulation (provisional), and Social Insecurity (provisional).

The items are measured on a six point Likert-type scale anchored at the extremes by “never” engage in that behaviour and “always” engage in that behaviour. Based on rational-theoretical considerations, responses for each item are then weighted from zero to three, with a score of three assigned to the responses most similar to “symptomatic” responses. “This scoring protocol rests on the assumption that item scaling is continuous only for the responses weighted 1-3. Responses in the non-symptomatic direction (i.e., a score of 0) should not aggregate to contribute to a total subscale score reflecting psychopathology.”(Garner, 1990, p.7).

The EDI-2 was designed as an aid to forming a diagnosis and *not* as the exclusive basis for making a diagnosis. Internal consistency reliability coefficients for the EDI-2 subscales are between .83 and .92 (Garner, 1991). Test-retest reliability revealed acceptable coefficients over time ($r = .79$ to .95) except for Interoceptive Awareness. After 3 weeks, test-retest reliabilities for 70 non-patient university undergraduates were all above .80, excluding Maturity Fears.
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(Crowther, Lilly, Crawford & Shepard, 1992). The psychometric properties of the instrument are sound and the constructs measure symptom domains and have clinical utility (Garner & Olmstead, 1984). The EDI-2 is sensitive to clinical change, and as a result the scale can play a valuable role in clinical evaluations of eating disorder patients (Garner, 1991). The EDI-2 has been used as a screening instrument in non-clinical populations to indicate which individuals are likely to be preoccupied with their weight and appearance (the defining characteristics of eating disorders; Davis, 1990; Garner & Olmstead, 1984; Krane, Stiles-Shipley, Waldron, & Michalenok, 2001; McDonald & Thompson, 1992; Thompson & Chad, 2001).

For the purposes of the present investigation only Drive for Thinness (DT) was used to classify those at-risk for eating disordered behaviour. The Drive for Thinness subscale is comprised of 7-items derived from Bruch (1973, 1982) who described the “drive for thinness” or the “relentless pursuit of thinness” as the cardinal feature of eating disorders (Garner, 1991). Russell (1970) has described its antithesis, the “morbid fear of fatness”, as the core psychopathology of both anorexia nervosa and bulimia nervosa. The clinical manifestation of an intense drive to be thinner or fear of fatness is essential for the diagnosis of anorexia and bulimia. Items on this subscale assess excessive concern with dieting, preoccupation with weight and fear of weight gain. A predetermined DT cutoff score of ≥14 corresponds to a score at or above the anorexia nervosa patients mean score (Garner, Olmstead, & Polivy 1984). This cutoff also corresponds to the 41st percentile for eating disorder patients, and the 91st percentile for non-patient college women (Garner, 1991). According to Garner (1991) a cutoff score of 14 on DT of the EDI identifies approximately 10% of college and high school females, 10 to 40% of whom may be suspected to have clinically significant eating disorders. This claim was supported by a study by Vanderheyden and Boland (1987) who reported that the drive for thinness subscale
played an important role in a discriminant function that correctly classified 73% of female undergraduates according to various levels of disturbed eating. Researchers (e.g., Garner, 1991; Martin & Hausenblas, 1998; Rosen, Silberg, & Gross, 1988; Shore & Porter, 1990) have employed a cut-off score on DT of 14 to distinguish between the AT and NOT groups.

**Self-Presentation Motivation**

Self-presentation motivation was assessed through the use of two measures, the Public Self-Consciousness Scale (PSC; Fenigstein et al., 1975) and The Brief Fear of Negative Evaluation Scale (FNE; Leary, 1983). The Public Self-Consciousness Scale is a dispositional measure of self-presentational motivation. This 7-item measure assesses people’s tendency to monitor the public aspects of themselves. Each item is rated across a 5-point Likert-type scale ranging from $1 = \text{(not at all characteristic of me)}$ to $5 = \text{(extremely characteristic of me)}$.

Part of a larger instrument, the PSC was originally conceptualized by Fenigstein et al. (1975) to reflect individual differences in self-consciousness (the other subscales being private self-consciousness and social anxiety). The researchers devised a 38-item scale based on what they identified as self-consciousness. Initial item development included questions about preoccupation with past, present and future behaviour, sensitivity to inner feelings, recognition of one’s positive and negative attributes, introspective behaviour, a tendency to picture or image ones self, awareness of one’s physical appearance and presentation and concern over the appraisal of others. The scale was administered to undergraduate students including 130 women and 82 men. A principal-components factor analysis of the items supported the three factor structure. Subsequent revisions and psychometric testing across nine samples supported the same three factor structure. A final version of the scale included 23 items that were administered to 432 college students ($n = 179$ males; $n = 253$ females). The principal-components factor
analysis retained three factors including Private Self-Consciousness (10 items), Public Self-Consciousness (7 items), and Social Anxiety (6 items).

For the purposes of the present investigation, the Public Self-Consciousness subscale was used. Acceptable test-retest reliability ($r = .84$) has been demonstrated for this measure (Fenigstein et al., 1975) and it has acceptable levels of internal consistency, Cronbach $\alpha = .74$ (Martin & Leary, 2001). In the present study the level of internal consistency was also acceptable across each of the three treatment conditions IN ($\alpha = .86$), AT ($\alpha = .83$), and NOT ($\alpha = .77$).

The Brief Fear of Negative Evaluation Scale (Leary, 1983) is a 7-item measure assessing people’s fearfulness of receiving disapproval and criticism from others. Each item is rated across a 5 point Likert-type scale ranging from $1 = (not \ at \ all \ characteristic \ of \ me)$ to $5 = (extremely \ characteristic \ of \ me)$. Developed from the original Fear of Negative Evaluation Scale (Watson & Friend, 1969) Leary sought to create a shorter version of the scale to minimize participant burden without disturbing the psychometric properties of the instrument.

Leary (1983) first administered the full 30-item version of the scale and the shortened 8-item version to a sample of 150 undergraduate students. Correlations between the full length Fear of Negative Evaluation and Brief Fear of Negative Evaluation scales were calculated ($r = .96$) and acceptable reliability for the shortened version established ($\alpha = .90$). Test-rest reliability of a sample of 75 students was acceptable ($r = .75$). A third sample of 85 undergraduates were given the full length and brief scales, and a fourth sample was given the brief scale to assess construct validity. A final sample of 40 students completed the brief scale to provide further information about the validity of the scale. Martin and Leary (2001) also demonstrated acceptable internal consistency ($\alpha = .88$) in a sample of undergraduate males and
females. In the present study, the level of internal consistency achieved minimally acceptable standards across each condition: IN (α = .79), AT (α = .75), and NOT (α = .71).

**Physique Specific Self-presentation Motivation**

The Social Physique Anxiety Scale (SPAS; Hart et al., 1989) is a 12-item measure that assesses trait anxiety associated with other’s evaluations of one’s body. Each item is rated across a 5 point Likert-type scale ranging from 1 = *(not at all characteristic of me)* to 5 = *(extremely characteristic of me)*.

Hart et al., (1989) initially generated a pool of 30 self-report items that dealt with physique anxiety resulting from the evaluations of one’s body by others. Content relevance of the items was examined to ensure item clarity, content validity, and items assessed to minimize gender bias. This process resulted in a 22-item scale that was then administered to 195 undergraduate participants, *(n = 97 females; n = 98 males)* who were asked to rate the degree to which each statement was characteristic of them. Principal components analyses demonstrated that 14 items loaded greater than .60. Three items were removed and one added to more accurately capture the construct of interest. The twelve item scale was then administered to 89 participants *(n = 46 females; n = 43 males)*. Support for reliability of the scale was offered with a test-retest reliability of .82 and internal consistency of α = .90.

Phase two of the scale development examined the construct validity of the SPAS in a sample of 93 women and 94 men. The participants completed a battery of inventories including the SPAS, Self-Consciousness Scale (Fenigstein et al., 1975), the FNE (Leary, 1983), Interaction Anxiousness (Leary, 1983), Body Cathexis (Langston, 1979), Body Esteem (Franzoi & Shields, 1984), and Social Desirability (Reynolds, 1982). Results of the study found that the SPAS
positively correlated with other measures that assess concerns over other evaluations (e.g., interaction anxiousness and fear of negative evaluation), correlated moderately with PSC ($r = .30$) Body Esteem (range from $r = -.36$ to -.82), and Body Cathexis ($r = -.58$). The SPAS was highly correlated with measures related to weight and general physical attractiveness, or concerns about the physique, and had low correlations with social desirability, individuals were not affected by presenting themselves desirably, which demonstrates content validity.

The final phase of the scale development was designed to test the criterion-related validity of the SPAS. Participants in the study were 56 undergraduate women, (28 classified as high scorers on the SPAS and 28 classified as low scorers). Data were gathered both subjectively and objectively across measures of body fat and muscular tone. Assessment results were read out loud to a lab assistant to be recorded to increase the public nature of the test. After this, participants were asked to indicate how stressed they felt, the degree of discomfort, and the extent to which they had negative thoughts during the evaluation. Finally, participants were provided with eight silhouette figure drawings which ranged from extremely thin to extremely overweight. Participants were then asked to select the figure that best represented their own physique. The actual size of the figure was recorded by an experimenter.

The results of the study determined that women with higher levels of SPA were more stressed, more uncomfortable, and had more negative thoughts during the evaluation than women with lower SPA scores. Those higher in SPA weighed more, were taller and had a higher body fat percentage that those lower in SPA. Further, SPA was found to contribute significantly to the anxiety that one felt during physical evaluation as well as to negative thoughts experienced while being evaluated. It was concluded that the SPAS is a valid and reliable tool for measuring social physique anxiety.
Since its original development, considerable debate has been waged concerning the factor structure and multidimensional nature of the SPAS (McAuley & Burman, 1993; Eklund, Mack & Hart, 1996; Motl & Conroy, 2001; Smith, 2004). Martin, Rejeski, Leary, McAuley, and Bane (1997) have conducted the most systematic investigation of the properties of the SPAS since its initial development. Considering information reported by previous researchers, Martin et al. re-proposed the SPAS as unidimensional, and dropped three items (1, 2, and 5) from the original scale. Item 2 had consistently been problematic (McAuley & Burman, 1993; Eklund et al., 1996) as well items 1 and 5 had been found to correlate highly with body satisfaction which does not necessarily have a socially evaluative component to it. When the three items were deleted, a 9-item unidimensional measure was produced (removing these three items dissolved the second subscale identified by Eklund et al., 1996).

Data were collected from four different samples: 281 female aerobics instructors (Sample 1), 133 college females (Sample 2), 760 university students, club through elite level athletes, and inactive high school students (Samples 3 & 4). Participants in Samples 1, 3, and 4 completed the original 12-item SPAS, and for Sample 2 item 2 was reworded. The first and second samples also completed measures of body dissatisfaction. Sample 1 was given the Body Dissatisfaction Subscale of the EDI-2, (Garner, 1991) and Sample 2 was given the Multiple Body Self-Relations Questionnaire which included the Body Area Satisfaction Scale and the Appearance Evaluation subscale (Cash, Winstead & Janda, 1986).

Confirmatory factor analyses of the 9-item scale provided evidence for the one-factor model to be an acceptable fit. A two-factor model structure was also assessed and the results determined that there were no statistical differences between the one-factor and two-factor models. Alpha coefficients were calculated for both Sample 1 and Sample 2 and were found to
have good internal consistency ($\alpha = .89$). It was concluded that the 9-item SPAS was a valid and reliable measure of social physique anxiety. As a result, the 9 item version of the scale has been most typically adopted by researchers (Gammage et al., 2004; Krane, Styles-Shipley, Waldron, & Michalenok, 2001; Hasse & Prapavessis, 2001; Hasse et al., 2002). In the present study the SPAS was deemed reliable with all alphas above conventional levels for the IN, AT, and NOT group ($\alpha = .92$, $\alpha = .81$, $\alpha = .88$ respectively).

**Self-Presentational Efficacy**

Self-presentational efficacy was assessed through the use of the Self-Presentational Efficacy Scale (SPES). The Self-Presentational Efficacy Scale is a 30-item measure that assesses the three aspects of self-presentational efficacy in exercise settings proposed by Maddux et al., (1988). Ten items assess each of three constructs: self-presentational efficacy expectancy (SPEE; how confident one is in presenting desired images), self-presentational outcome expectancy (SPOE: the extent to which an individual believes that specific outcomes would result from a behaviour) and self-presentational outcome value (SPOV; the importance placed on achieving the outcome). SPEE is rated on a scale from 0% - 100%, whereas SPOE and SPOV were rated on a 6-point Likert-type scale ranging from 1 = *(strongly agree)* to 6 = *(strongly disagree)* is used.

This scale was developed specifically for the present study with items borrowed from Gammage et al. (2004). In this study, 10 items were used to assess each of the three constructs. Items included fit body, toned body, stamina, in good shape, workout regularly, good posture, good cardiovascular endurance, muscle tone, flexible, and exerciser. The SPES was deemed reliable as all alphas were well above conventional levels for the IN (SPEE $\alpha = .93$; SPOE
\[ \alpha = .95; \ SPOV \ \alpha = .96), \ AT \ (SPEE \ \alpha = .93; \ SPOE \ \alpha = .96; \ SPOV \ \alpha = .95), \ \text{and NOT group (SPEE} \ \alpha = .94; \ SPOE \ \alpha = .94; \ SPOV \ \alpha = .98). \] respectively.

**Exercise Motivation**

Motivation to exercise was assessed through the Exercise Motivation Inventory – 2 (EMI-2; Markland & Ingeldew, 1997). The EMI-2 is a 51-item self-report measure with 14 subscales designed to assess motives for exercise participation. Participants were asked to respond to statements about why they would personally choose to exercise across a 6-point Likert type scale with anchors 0 = *(not at all true for me)* to 5 = *(very true for me)*.

Initial item pool creation (of the EMI) was derived from existing inventories and through open-ended questions where participants were asked to state three main reasons why they chose to exercise (Markland & Hardy, 1993). Responses were then classified into nine categories including exercising for fitness improvement or maintenance, enjoyment, social and affiliation needs, health-related reasons, stress management, development of personal skills, and improving sport performance. Content relevance was assessed by five judges who were familiar with exercise and motivation psychology. A total of 71-items were retained for the first phase of the scale development and were administered to 249 individuals who were involved in some form of physical activity.

Exploratory principal components analysis of the items revealed a factor structure comprised of 15 subscales. Upon further investigation some of the factors were undetermined, therefore a number of items were removed which left 56-items. This revised item pool was then assessed through a principal components analysis where 12 factors emerged. These included: Stress Management, Weight Management, Recreation, Social Recognition, Enjoyment,
null
Appearance, Personal Development, Affiliation, Ill-health Avoidance, Competition, Fitness and Health Pressures. The scale went under further item reduction to remove ambiguous low-loading items which resulted in the retention of 50 items.

The internal consistency of the scale was then assessed using Cronbach’s alpha, and another six items were removed when the alpha’s ranged from 0.62 to 0.92. The final version of the EMI consisted of 44-items with twelve subscales each comprised of between 2 and 6 items.

In order to examine test-retest reliability a sample of participants from the original sample were given the EMI 4 to 5 weeks after the first completion of the scale. Fifty-seven questionnaires were returned and correlations from time one to time two were found to be relatively stable (0.59 to 0.88).

In the second phase of the EMI’s development, Markland and Hardy (1993) assessed social desirability to further support the construct validity of the EMI. Low scores on the Social Recognition subscale led the researchers to test the social desirability response bias of the EMI. The EMI was administered to 25 karate players (n = 19 males; n = 6 females) along with the Marlowe-Crowne Social Desirability Scale (Renyolds, 1982). The results of the study determined that no correlations were statistically significant which indicated that socially-desirable responding did not occur with the EMI.

The concurrent validity of the scale has also been documented (Markland & Hardy, 1993). Participants (N = 196) completed both the EMI and the Intrinsic Motivation Inventory (IMI; Ryan, 1982). Correlational analyses revealed that the Enjoyment and Recreation subscales of the EMI demonstrated strong correlations to the Interest/Enjoyment subscales of the IMI. As well, Affiliation was found to correlate moderately with the Interest/Enjoyment subscale.
Markland and Ingeldew (1997) felt that there were several weaknesses with the EMI, specifically concerning the subscales of Fitness and Health-related reasons for exercise. It was perceived that the EMI did not assess several fitness-related reasons for exercising. As well, the wording of the EMI was structured so that it was geared towards individuals who were already currently exercising. With these limitations in mind Markland and Ingeldew (1997) developed a revised version of the EMI (the EMI-2). Twenty-five items were added to the 44 original EMI items, and the original 12 factors increased by two to include Revitalization and Challenge. The instructions of the EMI-2 were reworded from the original to include participants who not only exercised but participants who were not currently exercising.

These researchers assessed the exercise motives and stages of change for exercise among 282 males and 143 females (N = 425). Eighty-two participants were in the precontemplation stage (having no intention of changing behaviour), 57 in the contemplation stage (thinking about exercising in the next six months), 48 were in the preparation stage (taking steps to exercise in the near future), 35 in the action stage (exercising for less than six months) and 203 were in the maintenance stage (have been exercising regularly for more than six months) (Prochaska & DiClemente, 1983).

Factorial validity was determined across three phases. Results determined that the items were all good indicators of their factors, were clearly defined, and the scale was not confounded by gender. Thus support for the validity of the EMI-2 was demonstrated. It was concluded that the EMI-2 is a valid, reliable indicator of exercise motives for the exercising and non-exercising populations.

For the purposes of the present investigation, only those subscales which have a theoretical link to self-presentation were utilized (Hausenblas et al., 2004; Leary, 1992). As the
motive to improve one's physical appearance has been linked to self-presentation the EMI-2 subscales of Weight Management (WM), Appearance (AP), Strength and Endurance (SE), and Nimbleness (NI) were included. Social identity has also been linked to self-presentational process (Hausenblas et al., 2004), therefore, Social Recognition (SR), Affiliation (AF), and Competition (CO) subscales of the EMI-2 were also included. These seven subscales represent 27-items of the original 51.

The subscales of the EMI-2 were deemed more reliable than not. Measures of internal consistency were above conventional levels for the "AT" and "NOT" groups for Social Recognition (\(\alpha = .81, \alpha = .81\) respectively), Strength/Endurance (\(\alpha = .89, \alpha = .91\) respectively), Affiliation (\(\alpha = .81, \alpha = .92\) respectively), Competition (\(\alpha = .95, \alpha = .92\) respectively), and Nimbleness (\(\alpha = .87, \alpha = .77\) respectively). Reliability analyses for WM and AP subscales fell below conventional levels for the AT group (\(\alpha = .57\) and \(\alpha = .08\) respectively). Deletion of one item (I exercise to lose weight) for the WM subscale resulted in an acceptable level of internal consistency (\(\alpha = .78\)). Therefore, the WM subscale comprised of three items was retained.

Deletion of one item (I exercise to look younger) resulted in a substantially improved level of internal consistency for AP (\(\alpha = .61\)) although conventional levels of acceptability were still not attained. Previous literature (Markland & Hardy, 1993; Markland & Ingeldew, 1997) has not noted concerns over reliability estimates for these subscales. As a result, sampling error may explain the low estimates of reliability. Furthermore, it was decided that the information garnered from including this dimension outweighs its low reliability scores. As such, it was decided to retain AP in subsequent analyses with a caution towards interpretation. For the "NOT" group, the subscales of Weight Management (\(\alpha = .92\)), and Appearance (\(\alpha = .78\)) were above conventional levels.
Procedure

Ethics approval was obtained from the Research Ethics boards at Brock University, Redeemer University College and Homewood Health Centre (see Appendix A). Participants 18+ were then recruited for the investigation. For the AT and NOT groups, university students were targeted by contacting professors and asking permission to recruit from their classes. Letters of information were presented (see Appendix B) and permission was gained from professors to enter their classes through signed informed consent forms (see Appendix C). At a mutually convenient time, both male and female participants were recruited. The purpose of the study was fully disclosed to participants and a General Letter of Information and Informed Consent was presented and consent was obtained (see Appendices B & C). Any questions or concerns were addressed at this time. Participants were required to sign the consent forms prior to participation in the study. Once consent was obtained, participants were asked to complete questionnaires (see Appendix E) which included demographic and exercise history information, the DT subscale of the EDI-2, three measures of self-presentation motivation, self-presentational efficacy, and exercise motivation. Completion of the questionnaires took approximately 30-35 minutes. All participants in the study were volunteers and confidentiality and anonymity of participation was maintained. A total number of 522 undergraduate male ($n = 155$) and female ($n = 367$) participants completed questionnaires for the present study.

For the IN group, a Letter of Information was presented and permission was obtained from the Chief Medical Officer and Recreation Therapist at Homewood Health Centre to recruit participants from the in-treatment eating disorder program (see Appendices B & C). The Recreation Therapist disclosed the purpose of the study to participants and recruited participants. A General Letter of Information and Informed Consent was completed prior to receiving the
questionnaire package (see Appendices B & C). The Recreation Therapist administered the questionnaires to participants to minimize participant anxiety and questionnaires were collected by the primary researcher. The IN group completed three measures of self-presentation motivation, and a measure of self-presentational efficacy. Demographic information (i.e., age, weight, height, eating disorder diagnosis) was collected from patient records by the Recreation Therapist. The IN group did not complete measures of exercise motivation or exercise history again due to participant burden concerns expressed by medical staff.

Considering the in-treatment condition was exclusively female participants it was decided that the comparison groups should be comprised exclusively of females. The AT group was selected from the pool of 367 undergraduate females. Of this pool 46 met the criteria for AT (i.e., scores ≥ 14 on the measure of DT of the EDI-2). Sample size of the AT group and the a priori power analysis determined sample size for the NOT condition. As such, 46 female undergraduate students were randomly sampled from the remaining 321 participants who scored less than 14 on the measure of DT.

Design and Analysis

The present study is a non-experimental design with all variables being measured through surveys. The researcher recognizes that non-experimental designs offer the poorest control for threats to internal validity and that causality cannot be determined.

Prior to gathering data, a priori power analyses were run (G*power) to determine the sample size necessary to achieve acceptable power (the probability of rejecting the null hypothesis when it should be rejected). Sample means, standard deviations and sample sizes were entered into G*Power using data gathered on the FNE, PSC and SPAS from previous research (e.g., Gammage et al., 2004; Martin & Leary, 2001). Using alpha = .05 and a one-way
hypothesis test, it was determined that between 43 and 50 participants (depending on the measure) were required to achieve good power ($\beta = .80$) (Faul & Buchner, 1998). The AT and NOT comparison groups fall within this general range.

Prior to testing study hypotheses, the representativeness of the NOT group was examined through a series of Analyses of Variance (ANOVAs). Five random samples of the NOT group were randomly selected through the Random Samples procedure in SPSS. The samples were generated as comparison samples to ensure the representativeness of the NOT group. Furthermore, data were screened for accuracy and patterns of missing data examined. An assessment of the randomness of missing data was performed through the Missing Values Analysis in SPSS. Also, the tests of assumptions important to the accuracy of the conclusions generated were conducted. Data were examined to test the assumption of normality by examining the scores of skewness and kurtosis for each study variable. To test the assumption of homogeneity of variance, the Levene's test was conducted through SPSS. All data were measured at an interval level of measurement therefore this assumption was met. However the assumption of independence was not met as there was no random sampling from the population of interest. Concerns over violation of this assumption were limited, as the $F$ statistic is quite robust against violations of this assumption (Lyndamen, 1974).

To test for differences between the three groups (Hypotheses 1, 2, 5), separate Analyses of Variances (ANOVAs) were conducted. Where a significant ANOVA was found, the Ryan post hoc test (REGWQ) was calculated to determine specifically where significant mean differences lay. The REGWQ is a modified Newman-Keuls test adjusted so critical values decrease as the range from highest to lowest mean in the set being considered decreases. As a result the REGWQ controls the experimentwise alpha rate at the desired level (e.g., .05) even
when the number of groups exceeds 3, but at a cost of being less powerful (more chance of Type II errors) than Newman-Keuls. Toothaker (1993) suggested the REGWQ is the "best choice" among tests supported by major statistical packages as it maintains good alpha control (e.g., better than Newman-Keuls) while having at least 75% of the power of the most powerful tests (e.g., better than Tukey HSD). The REGWQ was calculated only when the assumption of homogeneity was not violated. When violated, Toothaker recommended using the Games-Howell as it is a more conservative test of mean differences.

To examine the relationship between dispositional measures of self-presentation motivation and exercise motives linked to self-presentational concerns, Pearson bivariate correlations were conducted (see Hypothesis 3). Where necessary (i.e., AP) correction for unreliability was conducted (Crocker & Algina, 1984).

To test for differences between the two groups (AT and NOT) (Hypothesis 4), independent samples t-tests were conducted. This test was selected because there were two independent groups comprised of different subjects and the sample size is relatively small. Assumptions of homogeneity of variance were assessed through the Levene's test. SPSS corrects for the violation of this assumption, and when necessary, values associated with the corrected factor were reported.

Finally, to predict group classification (Hypothesis 6) a Discriminant Function Analysis was conducted. The choice to use a Discriminant Function Analysis was based on its robustness, its ability to handle both categorical and continuous dependent variables, and that data don't need to be normally distributed, linearly related or have equal within-group variances (Klecka, 1980; Lachenbruch, 1975). Prior to hypothesis testing, the assumptions of multivariate analyses were considered. First, assessment of the dependent variable determined it was categorical and
all cases belong to a group formed by the dependent variable. The group sizes of the dependent variable are not grossly different. The independent variables are measured on an interval scale. The assumption of homogeneity of variances was calculated by Box's M. The assumption of independence was not met.

For inferential tests, measures of statistical and practical significance are reported. Statistical significance was interpreted through $p$-values (i.e., the probability that the finding is due to chance, and was held to conventional levels ($p < .05$)). The $p$-value informs readers about the magnitude of the effects. The $p$-value depends (essentially) on two factors: the size of the effect and the size of the sample. One would get a 'significant' result either if the effect were very big (despite having only a small sample) or if the sample were very big (even if the actual effect size were tiny). Effect size (ES) is the label given to a family of indices that measure the magnitude of an effect. Unlike significance tests, these indices are independent of sample size. It is important to know the statistical significance of a result, since without it there is a danger of drawing firm conclusions from studies where the sample is too small to justify such confidence. However, statistical significance does not tell you the most important thing: the size of the effect.
CHAPTER FOUR: RESULTS

Data Screening

After checking for data entry errors, patterns of missing data were examined. All missing data were deemed to be random through the Missing Values Analysis in SPSS. Consequently, since less than 5% of the data were missing, missing data were replaced by the mean score by group classification (Tabachnick & Fidell, 2001). Data were examined to test the assumption of normality by examining the scores of skewness and kurtosis for each study variable (see Table 3). All study variables fell within the values outlined by Glass and Hopkins (1996) (i.e., skewness within the ±2.00 range and kurtosis with the ±3.00 range). Therefore no transformation of the data was necessary.

Representativeness of the NOT condition

Consistent with previous research, those scoring less than 14 on the Eating Disorder Inventory-2 were classified as not at risk for the development of an eating disorder. The NOT group was comprised of 46 participants who were randomly selected using Random Sample Cases in SPSS from a pool of 367 participants. Values from the first sample (i.e., NOT) generated are reported in Chapter 4. Concerns over the representativeness of this sample compared to others deemed not-at-risk for eating disorders may be raised. As a result, four additional random samples (n = 46 each) were generated (NOT2 through NOT5). ANOVAs were calculated to determine whether the five samples were similar across relevant study variables (see Table 4). Results indicated no significant sub-group differences across study variables except for SPOE. Poc hoc analyses (REGWQ) were conducted on SPOE and results indicated that NOT5 had significantly greater self-presentational outcome expectancy ($M_{NOT5} = 46.19; SD$
Self-Presentational Motives

= 7.68) than the other four samples ($M_{NOT} = 42.13; SD = 8.66; M_{NOT2} = 44.63; SD = 7.26, M_{NOT3} = 42.06; SD = 8.66; M_{NOT4} = 41.97; SD = 8.22$, respectively).

A series of Kruskall-Wallis tests were run on the five NOT samples across the measure of exercise history. Results are reported by intensity level. In the first test there were no significant differences found between randomly selected NOT conditions across moderate effort activity $H(4) = 2.52, p > .05$. Furthermore, there were no significant differences found between the NOT conditions across intense effort activity $H(4) = 5.36, p > .05$. As a result, the NOT sample used in subsequent analyses was deemed representative of other not-at-risk samples.

Differences between the IN, AT, and NOT groups across demographic variables

A series of ANOVAs were conducted to determine the similarity of the three conditions across relevant demographic variables. Results revealed significant group differences for age $F(2, 128) = 16.06, p < .001, \eta^2 = .02$ and weight $F(2, 128) = 11.02, p < .001, \eta^2 = .04$. Post hoc analyses revealed that the IN group was significantly older than the NOT and AT groups. For weight the IN group weighed significantly less than the NOT and AT groups. Examination of the eta squared as a measure of effect size documented weak differences between groups on these demographic variables.

A series of Mann Whitney U tests were run to determine if group differences existed between the AT and NOT groups across the variable of exercise history (calculated and reported by intensity). Data were not obtained for this measure for the IN condition. Hours spent in sedentary activity were not included in the estimates of exercise history for the AT and NOT groups as exercise history was a measure of activity as opposed to inactivity. Also minimal effort activity was not included in the analyses due to small sub-sample sizes. For moderate effort activity the test revealed no significant differences for the AT group ($n = 31$) and the NOT
group \((n = 32)\) \((z = -0.39, p > 0.05)\). For intense effort activity there were also no significant differences found between the AT group \((n = 41)\) and the NOT group \((n = 39)\) \((z = -1.33, p > 0.05)\). As such, it can be concluded that those at risk and those not at risk for the development of an eating disorder did not differ on measures of moderate and vigorous lifetime physical activity.

**Differences between the AT and NOT conditions on DT**

Participants labeled AT and NOT were selected on the basis of their DT scores. A \(t\)-test was conducted to determine if there were significant differences for these groups across the measure of DT. The \(t\)-test revealed that there were significant differences between groups \(t(90) = -19.8, p < 0.05, d = 4.15\). The AT group had significantly greater drive for thinness \((M = 17.47; SD = 2.44)\) than the NOT group \((M = 3.58; SD = 4.05)\).

**Does trait self-presentation motivation differ among groups?**

To test the assumption of homogeneity of variance the Levene’s test was examined. All trait SPM variables demonstrated acceptable homogeneity \((p > 0.05)\). The data were measured at an interval level, but data did not meet the assumption of independence. However, Lindman (1974) reported that the \(F\) statistic is quite robust against violations of this assumption.

An ANOVA was conducted to determine whether there were significant differences in the three measures of trait self-presentation motivation (i.e., FNE, PSC, and SPAS) across the three groups (see Table 3). Results demonstrated a significant difference on FNE \(F(2,128) = 22.48, p < 0.05, \eta^2 = 0.26\); PSC \(F(2,128) = 34.70, p < 0.05, \eta^2 = 0.35\), and SPAS \(F(2,128) = 37.43, p < 0.05, \eta^2 = 0.37\). The effect sizes showed moderate practical significance. Post hoc analyses were conducted to determine specifically where the differences lay. Results of the REGQW showed that the NOT group had significantly less \((M = 27.96; SD = 5.89)\) FNE than the AT group \((M = 33.91; SD = 6.51)\) and the IN group \((M = 38.05; SD = 8.58)\). Also the AT group had significantly
lower FNE than the IN group. Similar results were found for the measure of PSC with the NOT group reporting significantly lower PSC ($M = 18.71; SD = 4.45$) than either the AT or IN group ($M = 24.93; SD = 4.72$ and $M = 27.61; SD = 6.14$ respectively). The AT group also reported significantly lower PSC than the IN group. The NOT group also reported significantly lower ($M = 25.58; SD = 7.46$) SPA than the AT group ($M = 36.91; SD = 5.67$) and the IN group ($M = 36.97, SD = 8.30$). No other significant differences emerged.

**Is there a relationship between exercise motives and self-presentation motivation?**

Participants in the IN condition were not administered the measure of exercise motivation. As a result, the following analyses include only those classified as AT or NOT. The inclusion of the EMI-2 subscales as measures of self-presentational motives for physical activity were based more on theoretical than empirical support. As a result, bivariate correlations were conducted to determine the relationship between the three trait measures of self-presentation motivation and the EMI-2 subscales selected as having a self-presentational component (see Tables 5 & 6).

Significant correlations between study variables were expected. For the NOT group, significant correlations were observed across 7 of the 21 possible combinations. All significant correlations were moderate in magnitude. Most notably, the trait measures of self-presentation were correlated with WM. For the AT group, 4 significant correlations were found. FNE, PSC, and SPA were all significantly correlated with AP, and SPA was also related to WM motives to engage in exercise.

**Do state self-presentational exercise motives differ among groups?**

The Levene’s test determined that weight management and appearance subscales of the EMI-2 demonstrated significant homogeneity of variance ($p < .05$). Therefore the $t$-test statistic
for equal variances not assumed was reported for these two subscales. The data were measured at an interval level, however, data did not meet the assumption of independence as we have not randomly sampled from the population of interest.

Separate independent samples t-tests were conducted to determine if there were significant differences on the measures of the seven self-presentational exercise motives between the AT and NOT groups (see Table 3). Results of the analysis revealed that significant differences between groups existed on the measure of social recognition \( t(90) = -2.39, p < .05 \), weight management \( t(90) = -6.21, p < .05 \), and appearance \( t(90) = -6.14, p < .05 \). A moderate effect size was found for social recognition \((d = .49)\), and large effect sizes were found for weight management \((d = 1.30)\) and appearance \((d = 1.28)\). No other significant differences were found. In all cases the AT group reported significantly higher self-presentational motives to exercise than the NOT group.

*Does state self-presentational efficacy differ among groups?*

To test the assumption of homogeneity of variance the Levene’s test was examined. Violations of this assumption did not occur for the measure of SPOE and SPOV, however SPEE demonstrated significant homogeneity \((p < .05)\). Therefore the Games-Howell post hoc test was used for SPEE (as opposed to the REGWQ). SPOE and SPOV employed the REGQW. The data were measured at an interval level and the assumption of independence was not met, although these concerns were minimized (Lyndman, 1974).

A series of ANOVAs were conducted to determine whether there were significant differences across the three measures of self-presentation efficacy. A significant ANOVA was found for SPEE \( F(2,128) = 8.97, p < .05, \eta^2 = .12 \) and SPOV, \( F(2,128) = 4.53, p < .05, \eta^2 = .07 \). Although statistically significant, the effect size demonstrated weak practical significance. No
significant differences were found in SPOE $F(2,128) = .78, p > .05$. Results of the Games Howell post hoc analysis showed that the NOT group reported significantly greater ($M = 647.63; SD = 171.66$) SPEE than the AT group ($M = 490.13; SD = 212.53$) and the IN group ($M = 478.74; SD = 245.81$). It was also found that the NOT group had significantly greater ($M = 31.93; SD = 12.36$) SPOV than the AT group ($M = 26.08; SD = 11.30$) and the IN group ($M = 24.39; SD = 12.59$).

Do trait self-presentation motives predict group classification?

Data were screened for multivariate outliers using the calculations of Malhalanobis distance. After examining the data it was found that no number exceeded the critical value for $x^2$ of 16.26, $p < .001$. The assumption of multivariate normality was upheld as robustness of the analyses is expected with group sizes of 20 or more (Tabachnick & Fidell, 2001). Box’s test of equality of covariance indicated homogeneity of the covariance matrices ($p > .05$). Lastly, the assumption of multicollinearity was upheld.

A direct discriminant function analysis was performed using three trait self-presentation motivation variables as predictors of membership in three groups. Predictors were FNE, PSC, and SPA and the grouping variable was eating disorder condition (i.e., IN, AT, and NOT). Two discriminant functions were calculated, with a combined $\chi^2 (6) = 80.27, p < .001$. After removal of the first function, there was still strong association between groups and predictors, $\chi^2 (2) = 13.59, p < .01$. The two discriminant functions accounted for 85.9% and 14.1% respectively, of the between-group variability. The first discriminant function maximally separated the NOT from the others. The second discriminant function discriminated the IN group from the other two groups.
The loading matrix of correlations between predictors and discriminant functions, as seen in Table 7, suggests that the best predictors for distinguishing between the NOT and the other two groups (first function) were SPA, PSC, and FNE (respectively--all positively contributed). The NOT group had lower SPA ($M = 25.58; SD = 7.46$) than the AT group ($M = 36.91; SD = 5.67$) and the IN group ($M = 36.97; SD = 8.30$). The NOT group also had less PSC ($M = 19.71; SD = 4.45$) than the AT group ($M = 24.93; SD = 4.72$) and the IN group ($M = 27.61; SD = 6.14$). Also the NOT had less FNE ($M = 27.95; SD = 5.89$) than the AT ($M = 33.91; SD = 6.51$) and the IN group ($M = 38.05; SD = 8.58$).

For the second function the best predictors for distinguishing between the IN group and the AT group were FNE and PSC (respectively). The IN group had higher FNE and PSC ($M = 38.05; SD = 8.58; M = 27.61; SD = 6.14$ respectively) than the AT group ($M = 33.91; SD = 6.51; M = 24.93; SD = 4.72$ respectively).

With the use of the classification procedure through SPSS, 63.4% of the original grouped cases were classified correctly. Classification results revealed 76% of the NOT group, 54% of the AT, and 59% of the IN group were correctly classified through knowledge of participants' scores on the three measures of trait self-presentation motivation.

The stability of the classification procedure was checked by cross-validation procedures. Several discriminant functions were run from the four NOT samples to ensure correct classification. The results from the cross-validation are as follows. For NOT2, there was a 63.4% classification rate with 78.3% of the NOT group, 56.5% of the AT group and 53.8% of the IN group correctly classified. For the NOT3 sample there was a 57.3% classification rate with 65.2% of the NOT group, 52.2% of the AT group and 53.8% of the IN group correctly classified. For the NOT4 sample there was a 59.5% classification rate with 69.6% of the NOT.
group, 54.3% of the AT group and 52.8% of the IN group correctly classified. Lastly, for the NOT5 sample there was a 60.3% classification rate with 69.6% of the NOT group, 54.3% of the AT group and 56.4% of the IN group correctly classified. The results of the cross validation discriminant functions revealed a high degree of consistency in the classification schemes. As a result confidence in the above reported findings can be achieved.
CHAPTER FIVE: DISCUSSION

The present investigation examined various trait and state cognitive manifestations of self-presentation motivation across three groups which have known differences on a measure of eating disordered behaviours. Specifically, the purpose of the study was to broaden our understanding of the role of self-presentational motives for those in an in-treatment eating disordered facility, those classified as “at risk” for eating disordered behaviour, and those “not at risk” for eating disorders.

The importance of studying self-presentation motivation and health behaviours (e.g., eating disorders) stems from research that has demonstrated that engaging in health-related behaviours is fueled (in part) by a desire to create a particular image (Akan & Grilo, 1994; Crawford & Eklund, 1994; Eklund & Crawford, 1994; Leary et al., 1994, Martin et al., 2001). Some individuals may begin dieting and exercising because they are motivated to sculpt their physique, to help reduce cholesterol levels, or to prevent diabetes. Others are motivated to begin dieting and exercise programs for weight management and social recognition as they are overly concerned with portraying a socially desirable image of a fit, thin, athletic person. When a person is overly concerned or sensitive to the opinions of others, fears being negatively evaluated, and lacks confidence in her ability to portray the socially desirable image they may adopt negative dieting and exercise behaviours (e.g., obsessive exercise, eating disorders) to impression manage. If they feel that this image is unattainable, or question their ability to portray such an image, social anxiety may be experienced. One of the socio-cultural factors in the development of eating disorders is a high need for social approval (Bulik et al., 1997; Robert-MacComb, 2001). Understanding the significance that self-presentational motivation has on health may have significant implications for the identification, treatment, and prevention from
engaging in unhealthy behaviours. In light of this significance the present study examined self-presentational differences among those with eating disorders, those at risk for eating disorders, and those not at risk for eating disorders.

The present investigation employed a known groups difference approach in that individuals were classified according to their risk for engaging in eating disordered behaviours. Consideration of the demographic characteristics of the groups demonstrated similarity among groups. Those in each of the three groups were all female and similar in height. No significant differences between groups were observed based on exercise history intensity. Significant group differences were found across two of the demographic variables--age and weight. The IN group was significantly older and weighed significantly less than the AT and NOT groups. Upon examination of these differences it was found that five of the thirty-nine IN group were in their forties which may account for the significant differences to the AT and NOT groups (comprised of undergraduates, age range 18-28). Previous research has not reported significant differences across ages (Martin et al., 2000; Martin et al., 2001; Thompson & Chad, 2001) on the variables of interest (e.g., SPA, FNE, PSC). Further, personality theory would suggest that traits don't change once they are stable (Carver & Scheier, 2000). One option to consider was to statistically control for age as a covariate in subsequent analyses. However, this option was not pursued as Cohen, Cohen, West, and Aiken (2003) suggested exercising caution when controlling for a significant covariate as the removal of the covariate changes the variables of interest.

The differences in weight were anticipated due to the fact that twenty-three out of the thirty-nine IN group were diagnosed with Anorexia Nervosa and one of the characteristics of this disorder is being significantly underweight. Examination of the effect sizes ($\eta^2 = .02, .04$ respectively) revealed that age and weight demonstrated statistically significant differences
between groups. However, the three samples were deemed comparable on relevant demographic variables.

Concerns over the representativeness of the NOT sample \((n = 46)\) were addressed through analyses of four additional random samples \((n = 46\) each) generated (NOT2 through NOT5) from a pool of 367 participants deemed not at risk for an eating disorder based on DT scores. Results of a series of ANOVAs indicated that there were no significant sub-group differences across relevant study variables except for SPOE. It was found that NOT5 had significantly greater SPOE than the other four sub-groups although examination of the effect size demonstrated weak significance therefore the NOT group used in subsequent analyses was deemed representative of other not at risk samples.

The present study extends previous research examining group differences on measures of self-presentation across three eating disorder groups. However, it is unique in that it is the first study to include both trait and state self-presentational motivation measures. First, it was hypothesized that significant differences would be found in global trait self-presentational motives (FNE, PSC) across the three groups. Specifically the IN group would report higher global trait self-presentational motives than the AT and NOT groups. Furthermore, the AT group would experience greater global trait self-presentational motives than the NOT group. Moderate significant group differences were found among the IN, AT, and NOT groups across measures of trait self-presentational motives. The IN and AT groups experienced greater FNE and PSC when compared to the NOT group, and the IN group experienced greater FNE and PSC than the AT group. Based on these results it can be interpreted that individuals diagnosed with an eating disorder and those who are at risk for developing an eating disorder are more fearful of receiving disapproval and criticism from others and are more aware of, or sensitive about the
impressions and/or opinions of others. These findings are supported by research conducted by Striegel-Moore et al. (1993) who found that clinical eating disorder patients and those with high EAT scores (those at risk for eating disorders) experienced greater public self-consciousness and social anxiety compared to controls (undergraduate non-clinical), and no differences were found between clinical patients and high EAT patients on the measure of PSC. Unlike the results from Striegel-Moore et al. (1993) the present study found differences on the measure of PSC between the IN group and the AT group with the IN group experiencing greater PSC than the AT group. These differences may be accounted for through consideration of difference in the measurement tool used to classify groups and characteristics of the sample. First, Streigel-Moore used the EAT to classify those at-risk for eating disorders, whereas the present investigation used the DT subscale of the EDI-2. Second, a more homogeneous sample (with respect to eating disorder classification) was used by Streigel-Moore as all were diagnosed with bulimia. The sample in the present study was more heterogeneous and was comprised of those with anorexia, bulimia, and EDNOS.

Other research has provided support for self-presentation motivation in those at risk for eating disorders. Cooley and Toray (2001) found that those higher in bulimic tendencies and dietary restraint experienced higher public self-consciousness than those without eating disorder tendencies. Gilbert and Meyer (2004) determined that those individuals with high FNE scores and depression were more likely to develop bulimic attitudes than those with low FNE scores. These findings provide evidence to support research that has stated that those with eating disorders experience more self-presentational concerns than those without eating disorders (Gilbert & Meyer, 2003). These findings have implications for self-presentation theory. For
example, a person who experiences FNE and/or PSC may have a greater need to create a socially desirable image than a person who does not experience higher levels of FNE or PSC.

Secondly, it was hypothesized that there would be significant differences found in trait-physique self-presentational motives across the three groups. Specifically, the IN group would report higher trait-physique self-presentational motivation than the AT and NOT groups. Furthermore, the AT group would report significantly higher SPA scores than the NOT group. This hypothesis was partially supported as it was found that the IN and AT group experienced greater SPA than the NOT group. However the IN group did not experience significantly greater SPA than the AT group. These findings support previous research that has also demonstrated high levels of SPA in those with disturbed eating behaviours in female samples (Bas et al., 2004; Fredrick & Morrison, 1998; Hasse & Prapavessis, 1998). Diehl et al., (1998) found that social physique anxiety was the strongest predictor (accounting for 15% of the variances) in anorexic eating attitudes. Therefore, SPA was deemed to be a significant contributing factor in eating disorder tendencies in undergraduate females. Similar results have been reported elsewhere (Doughty & Hausenblas, 2005; Hausenblas & Mack, 1999; Krane et al., 2001).

To date, no empirical research has examined SPA in clinical eating disorder populations. In the present study SPA was higher in both the IN and AT groups suggesting that it is a variable worthy of further examination. Previous research has already demonstrated that individuals with eating disorders have higher incidences of constructs theoretically and empirically linked to SPA (e.g., social anxiety, body image disturbances, FNE, PSC; Bulik, 2002; Gilbert & Meyer, 2004; Halmi et al., 1991; Striegel-Moore et al., 1993) One explanation for SPA being higher in these groups stems from social comparison theory (Festinger, 1998). Females who are at risk for eating disorders or who have eating disorders have an ideal or standard for the way that they
think they should look. Often this ideal is internalized based on cultural standards of beauty that are promoted through different media vehicles (e.g., t.v., magazines, and movies). Currently the cultural standard of beauty for females embodies a thin, fit, athletic physique. Perhaps it can be suggested that if an individual already experiences high levels of social anxiety and disordered eating attitudes and feels she/he does not measure up to a socially desirable image she/he may be more likely to experience SPA. The present study did not determine a causal relationship between SPA and disordered eating. However, the findings suggest the importance of examining SPA as a potential influential factor to consider in eating disorders in future research.

Differences in state self-presentation motivation were also considered. In the present investigation, state SPM was considered in the exercise environment--more specifically in one's motivation to engage in physical activity and in one's confidence in portraying a desired image (e.g., of an exerciser). Understanding the motives behind participation in physical activity will directly impact our understanding of why people initiate and maintain physical activity programs. Research has demonstrated exercise often predates the onset of eating disorders and is integral to their maintenance (Beaumont et al., 1994). Some aspects of exercise behaviours may be particularly influential to the development of eating disorders (i.e., exercise motives). Self-presentational exercise efficacy may be one such influential factor as research has demonstrated that the more confidence a person has in being viewed as an exerciser the more often they will actually exercise (Gammage et al., 2004).

The inclusion of the EMI-2 subscales as measures of self-presentational motives for physical activity was based more on theoretical than empirical support. Therefore, the third hypothesis stated that there would be a significant relationship between exercise motives and self-presentational motivation across the IN and AT groups. Specifically, exercise motives
would be positively correlated to self-presentational motives for the IN and AT groups. The EMI-2 subscales were only administered to the NOT and AT groups therefore limiting analysis of this relationship. Most notably relationships were found between FNE, PSC, SPA and motives to engage in exercise for weight management and appearance. This suggests that the more a person is worried about the impression he or she makes on others the more likely he or she will exercise for reasons linked to weight management and appearance. This relationship was supported by previous findings in a female undergraduate population (e.g., Crawford & Eklund, 1994; Eklund & Crawford, 1994). Further research by Sabiston et al., (2005) determined that weight/appearance reasons for exercising had a significant moderate contribution in predicting social physique anxiety in a female undergraduate sample.

These findings suggest a weak relationship among self-presentational motives and the EMI-2 subscales selected for inclusion in this study. Further empirical investigation of this relationship should be conducted. Examination of the association between SPM and exercise motives should be conducted in a larger sample size and also be conducted in the clinical eating disorder population.

Fourth, it was also hypothesized that the AT condition would report significantly higher motives to engage in exercise than those in the NOT condition. This hypothesis was partially supported as those classified as AT exercise more for weight management, appearance, and social recognition than the NOT group. These finding agree with those of Silberstein et al. (1988) who found that exercising for weight control reasons was associated with disordered eating and that those who exercise for appearance reasons may also be more at risk for the development of eating disorders. Other studies also support these results (Davis, 1990; McDonald & Thompson, 1990; Mond et al., 2004). No literature reviewed has examined the
importance of social recognition as a motive to exercise in those at risk for eating disorders. However self-presentation theory can provide insight into the importance of social recognition in this group. Perhaps the AT group felt that exercising helped them portray the culturally desirable image of being athletic, lean and fit which is an important ideal to attain for those at risk and those with eating disorders, and culturally rewarded (Garner, 1997).

The fifth hypothesis stated that significant differences would be found between the three groups on the measure of self-presentational efficacy. No a priori pairwise comparison hypotheses were advanced. Again, this hypothesis was partially supported. Significant differences were found on measures of SPEE and SPOV with the NOT group reporting significantly higher efficacy across these measures than the AT or IN groups. Thus, the NOT group had greater confidence in their ability to create the desired image (being in good shape or having good muscle tone) and also placed greater importance on the outcomes (being viewed as someone who was in shape) than those at risk for eating disorders or those with eating disorders. This is the first study to examine self-presentational efficacy in a clinical eating disorder population. Research has implicated participation in physical activity as a precursor to the onset of eating disorders (Davis et al. 1990; Davis et al 1994) and Fleming and Martin-Ginis (2004) determined that there is a relationship between self-presentational efficacy and exercise intentions. Although exercise participation may be one of the features of an eating disorder, those with eating disorders may not experience confidence in their ability to be viewed as an exerciser or even value being viewed as an exerciser. Perhaps these results can be explained by the low level of self-confidence that is consistently reported in those with eating disorders as opposed to those without eating disorders (Rodgers, 1998; Shisslak et al., 1998; Stevens & Salisbury, 1984).
Finally, the sixth hypothesis stated that trait self-presentational motives would correctly predict group classification. The discriminant function analyses revealed that trait SPM significantly predicted/classified 64% of group membership. Specifically, 76% of the NOT group, 54% of the AT group, and 59% of the IN group were correctly classified simply by knowing their scores on three trait SPM measures. Correlations between predictors and discriminant functions suggested that the best predictors for distinguishing between the NOT and the other two groups (first function) were SPA, PSC, and FNE (respectively). Results of this analysis can provide insight into variables that may have significant influence in those at risk and those with eating disorders. Individuals who reported being more fearful of receiving disapproval from others, who are more sensitive about the impressions and/or opinions of others, and experience greater anxiety surrounding the evaluation of their physique could be potentially identified as at risk for the development of an eating disorder. Also based on these results higher levels of SPA and PSC could identify someone at risk or with an eating disorder, and between these two groups higher levels of FNE and PSC could distinguish someone with an eating disorder and someone at risk for an eating disorder. Awareness of self-presentational motives can (in combination with other variables) potentially aid in early detection of those at risk for eating disorders.

The results from this study have demonstrated that for the population sampled those who engage in eating disordered behaviours experience greater cognitive manifestations associated with self-presentation than those who do not engage in eating disordered behaviours. In other words, in the present study individuals with eating disorders or who are at risk for eating disorders were more motivated to engage in self-presentational processes as an attempt to monitor how they were perceived by others. The importance of self-presentational motives to
the individual with an eating disorder and the individual at risk for an eating disorder provides insight into an understudied relationship.

The information reported in this study extends previous research in the area of self-presentation motivation by examining three trait and two state measures across three different eating disorder classifications. The present study also extends previous research as it employs different measures of trait self-presentation motivation (i.e., previous studies only used FNE or PSC or SPA) and examined self-presentation motivation in an in-treatment group. Only one previous study has examined self-presentation motivation in the eating disordered population and was limited to one measure of SPM, and only examined individuals with bulimia.

Secondly, the information reported provides insight into self-presentation motivation as one potentially influential factor in eating disorders. In the in-treatment setting, including therapeutic strategies on how to deal with self-presentational concerns may encourage recovery from an eating disorder. Based on the knowledge that traits are consistent across situations and time, it is important to recognize the influence that self-presentation motivation can have on a person. Furthermore, developing healthy, effective coping strategies for individuals with high self-presentation motivation may reduce the risk of engaging in negative health behaviours such as eating disorders.

Lastly, the information reported has implications for the exercise environment. It is apparent that those at risk for eating disorders are more likely to exercise for reasons such as weight control, appearance, and social recognition than those not at-risk. However, they are less likely to feel confident or even value being viewed as an exerciser. Not every person who exercises for weight control or appearance reasons will develop an eating disorder, however exercising for these reasons coupled with high self-presentation motivation may put a person at
an increased risk. From this study it can be said that perhaps those at risk for eating disorders may fear negative evaluations from others and specifically have body-related anxiety surrounding the evaluation of their physique. Perhaps those at risk for eating disorders are less confident in their ability to be viewed as an exerciser and value this view less because they fear being negatively evaluated as an exerciser. If an individual with an eating disorder lacks confidence in her ability to be viewed as an exerciser it may deter future exercise participation. For example one goal of treatment for those with eating disorders is to encourage healthy, well balanced, sustainable activity into their daily lifestyle. If a person with an eating disorder lacks the confidence in their ability to be viewed as an exerciser or does not value being viewed as such exercise participation may be inhibited.

There were several limitations to the present study. One limitation of the study was that it did not include other comparative samples. This study only examined an undergraduate female sample and an in-treatment eating disorder sample. Future research should examine the self-presentational motivation variables across groups of different treatment options (i.e., comparing in-treatment to outpatient) as well as examining trait and state self-presentational motives in different eating disorder classifications (i.e., anorexics, bulimics, and binge eaters).

Another limitation of the current study was that data on self-presentational exercise motives could not be collected from the in-treatment sample therefore limiting the importance of group differences found across this variable. A third limitation of the study was that two of the AT group and eight of the NOT group had been previously diagnosed with an eating disorder and it was difficult to determine what stage these individuals were at (e.g., recovered, recent onset or in some form of treatment). A fourth limitation of the study was the small sample sizes. While the sample approached numbers suggested in the a priori power analyses, the in-treatment
group (in particular) fell a little short. Therefore, firm conclusions centred on statistical power cannot be made. The study design was also another limitation of the current study. The study employed a non-experimental cross sectional design which offers the poorest control for threats to internal validity (i.e. expectancy, selection bias, and history; Campbell & Stanley, 1963; Rosenthal, 1966) and makes it impossible to determine a causal relationship between self-presentational motives and eating disorders.

In the present study reliability analyses for the weight management and appearance subscales fell well below conventional levels (.70) for the AT group which limited the findings for a relationship between self-presentational motives and exercise motives. Future research in this area should examine self-presentational exercise motives in all three sample groups identified in the present study. Future research should also extend the theoretical link tested in the present study between exercise motives and self-presentational motives to provide further evidence for a distinct set of self-presentational exercise motives.

In conclusion, this was the first study to examine trait and state self-presentational motives across three different eating disorder classifications. This study highlighted the importance of self-presentational motives affecting disordered eating in females. Furthermore it provided empirical evidence to suggest that self-presentational motives potentially exist within those at risk and those with eating disorders. The study also highlighted the fact that those at risk may be more likely to exercise for self-presentational reasons and may be less confident in their ability to portray or value the desired image (in this case, of an exerciser). Self-presentational motives permeate all aspects of life. For an individual at risk for an eating disorder self-presentational motives may play a significant role in the development and maintenance of these disorders. The epidemic of eating disorders pervading Western culture will not be resolved
anytime soon. In light of this, understanding one more factor contributing to these disorders can be of great benefit. Perhaps understanding the role of self-presentational motivation in eating disorders can provide insight for developing preventive strategies to reduce the risk of eating disorders.
References


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It's influence on social anxiety in an exercise context. *Journal of Sport & Exercise Psychology, 26*, 179-190.


Self-Presentational Motives


development and validity of a measure of individuals’ reasons for participation in regular

validity and invariance across gender of a revised Exercise Motivations Inventory.
*British Journal of Health Psychology, 2*, 361-376.


relationship between stable and situational forms of self-doubt in physical achievement
settings. Manuscript under review.

disorder symptomatology among female aerobic instructors. *The Sport Psychologist, 12*,
180-190.


The two main types of neural networks are feedforward and recurrent. Feedforward networks process data in a single pass, from input to output, without any feedback connections. Recurrent networks, on the other hand, have feedback connections that allow information to persist over time. This enables them to handle sequential data and capture temporal dependencies, making them suitable for tasks such as language modeling and time series analysis.


The primary purpose of this document is to present the results of an experimental study on the effects of different factors on the performance of a specific system. The study was conducted over a period of six months, during which various conditions were applied to the system. The results were analyzed using statistical methods, and the findings are presented in this document. The conclusions drawn from the analysis suggest that certain factors have a significant impact on the system's performance. Further research is recommended to explore these findings in more depth.

The experimental setup involved a series of controlled tests, where each test consisted of a specific set of conditions. The system's response was measured under each condition, and the data were recorded and analyzed. The results showed a clear trend, indicating the effectiveness of the applied factors. The study also highlighted the importance of considering various environmental factors in future experiments.

In conclusion, the study has provided valuable insights into the system's behavior under different conditions. The findings can be used to improve the system's design and to optimize its performance in real-world applications. Further research is encouraged to validate these results and to explore the potential for applying these findings in other contexts.


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<td>Target values</td>
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Beliefs about what images are desirable and unattractive

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Table 1
Self-Presentational Motives

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Table 2: Descriptive Statistics for Demographic Variables by Group Classification

Note: *Significant group differences were found, p < 0.05.
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Descriptive Statistics for Trait and State Self-Presentation Motivation Variables by Group Classification

Table 3
Self-Presentational Motives

*Significant group differences were found, \( p < 0.05 \).

- \( AP = \text{attestation} \)
- \( CO = \text{competition} \)
- \( WM = \text{weight management} \)
- \( AP = \text{appearance} \)
- \( SE = \text{strength and endurance} \)
- \( IN = \text{influence} \)
- \( EF = \text{efficiency} \)
- \( OF = \text{outcomes} \)
- \( PO = \text{public self-consciousness} \)
- \( SP = \text{social physique anxiety} \)
- \( PS = \text{public self-consciousness} \)

\( \text{Note: } FNE = \text{Fear of negative evaluation} \)
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Table 4: Descriptive Statistics for Demographic Variables and Study Variables for Samples N1, N2, N4, N7.
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Correlations between Trail and State Self-Presentational Motivation "NOT" Group

Table 5
Self-Presentational Motives

endurance: NI = propinquity

value: SR = social recognition; AP = affiliation; CO = competition; WM = weight management; AP = appearance; SE = strength and

SPE = self-presentational efficacy expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy; SPE = self-presentational outcome expectancy;

Note: * p < .05, ** p < .01, *** p < .001, **** p < .0001
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**Correlations between Trait and State Self-Presentational Motivation ‚„It” Group**

Table 6
Self-Presentational Motives

Strength and endurance; NI = nimbleness; AP* = correction for unreliability.

= outcome value; SR = social recognition; AP = affiliation; WM = competitive; WM = weight management; AP = appearance; SE = self-presentational efficacy expectation; SPOE = self-presentational outcome expectation; SPOV = social physique anxiety; SPSC = public self-consciousness; SPA = social physique anxiety; SPNE = fear of negative evaluation; * p < .05, ** p < .01.
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Table 7
Appendix A

Research Ethics Board Approval Letters
DATE: August 26, 2003

FROM: Joe Engemann, Chair
Senate Research Ethics Board (REB)

TO: Diane Stevens, Physical Education and Kinesiology
Heather Strong

FILE: 02-341, Strong

TITLE: Self-Presentational Concerns and the Role of Physical Activity in Eating Disorders

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as clarified.

This project has been approved for the period of August 26, 2003 to May 30, 2004 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The approval may be extended upon request. The study may now proceed.
Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and approved by the REB. The Board must approve any modifications before they can be implemented. If you wish to modify your research project, please refer to www.BrockU.CA/researchservices/forms.html to complete the appropriate form REB-03 (2001) Request for Clearance of a Revision or Modification to an Ongoing Application.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects, with the exception of undergraduate projects, upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form REB-02 (2001) Continuing Review/Final Report is required.

Please quote your REB file number on all future correspondence.

Deborah VanOosten, Research Ethics Officer
Brock University
Office of Research Services
500 Glenridge Avenue
St. Catharines, Ontario, Canada L2S 3A1
phone: (905)688-5550, ext. 3035 fax: (905)688-0748
e-mail: deborah.vanoosten@brocku.ca
http://www.brocku.ca/researchservices/humanethics.html
September 22, 2003

Ms. Heather Strong
Faculty of Applied Health Sciences
Brock University
500 Glenridge Avenue
ST. CATHARINES ON L2S 3A1

Dear Heather:

RE: "SELF-PRESENTATIONAL CONCERNS AND THE ROLE OF PHYSICAL ACTIVITY IN EATING DISORDERS"

This is to confirm that approval was given for the above mentioned study, by the Homewood Health Centre Research Ethics Board on September 22, 2003.

Please know that further approval is required from Homewood Research Ethics Board prior to making any significant changes to the protocol, consent process and/or advertisement of the study. Further, the Research Ethics Board needs to be informed of adverse reactions that may arise from the study.

Should your study continue for more than one year, you must request a renewal on or before one year from the approval date.

The Homewood Research Ethics Board would appreciate a brief summary of the results upon completion of the study.

The quorum for approval did not involve any member associated with this project.

The Research Ethics Board is constituted and functions in accordance with the ICH GCP and the Tri-Council Policy Statement (Ethical Conduct for Research Involving Humans) guidelines.

Yours truly,

Dr. John Pellettier, Chairman
Homewood Health Centre Research Ethics Board

c.c. Dr. Diane Stevens
FROM: Linda Rose-Krasnor, Chair
Reasearch Ethics Board (REB)

TO: Diane Stevens, Physical Education & Kinesiology
Heather Strong

FILE: 02-341 Strong

DATE: Thursday, September 30, 2004

The Brock University Research Ethics Board has reviewed the research proposal:

Self-Presentational Concerns and the Role of Physical Activity in Eating Disorders

The Research Ethics Board finds that your modification request to an ongoing project involving human participants conforms to the Brock University guidelines set out for ethical research.

LRK/hb
October 26, 2004

Ms. Heather Strong
Faculty of Applied Health Sciences
Brock University
500 Glenridge Avenue
ST. CATHARINES ON L2S 3A1

Dear Heather:

RE: “SELF-PRESENTATIONAL CONCERNS AND THE ROLE OF PHYSICAL ACTIVITY IN EATING DISORDERS”

This is to confirm that re-approval was given for the above mentioned study, by the Homewood Health Centre Research Ethics Board on October 4, 2004.

Please know that further approval is required from Homewood Research Ethics Board prior to making any significant changes to the protocol, consent process and/or advertisement of the study. Further, the Research Ethics Board needs to be informed of adverse reactions that may arise from the study.

Should your study continue for more than one year, you must request a renewal on or before one year from the approval date.

The Homewood Research Ethics Board would appreciate a brief summary of the results upon completion of the study.

The quorum for approval did not involve any member associated with this project.

The Research Ethics Board is constituted and functions in accordance with the ICH GCP and the Tri-Council Policy Statement (Ethical Conduct for Research Involving Humans) guidelines.

Yours truly,
Steve Abdool, Chairman
Homewood Health Centre Research Ethics Board

c.c. Dr. Diane Stevens
Heather Strong

From: Wayne Norman [norman@redeemer.on.ca]
Sent: Thursday, October 28, 2004 3:17 PM
To: Heather Strong
Subject: Ethics Review Approval

Memorandum

To: Heather Strong
From: Dr. Wayne D. Norman, Redeemer Ethics Review Committee (Chair)
Date: October 28, 2004
Re: Ethics Review: Self-Presentational Concerns and the Role of Physical Activity in Eating Disorders

I am writing to inform you that your proposal, “Self-Presentational Concerns and the Role of Physical Activity in Eating Disorders” was approved without questions or request for modification by the Redeemer Ethics Review Committee. I understand that you have contacted Dr. Douglas Needham and will be using some of his students as participants.

We have examined the modified version of the application for ethics review submitted to the Brock University Research Ethics Board along with the proposed questionnaire and letter of information.

We wish you all the best in your research endeavors and especially on this project. Should you substantially revise the project, we will need to be notified. Forms are available in my office.

6/28/2005
The Brock University Research Ethics Board has reviewed the research proposal:

Self-Presentational Concerns and the Role of Physical Activity in Eating Disorders

The Research Ethics Board finds that your modification request to an ongoing project involving human participants conforms to the Brock University guidelines set out for ethical research.

LRK/hb
Appendix B

Letters of Information
Letter of information – Professor

Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations

Principal Researchers: Dr. Diane Stevens, Associate Professor, Dept. of Physical Education and Kinesiology
and Heather Strong, M.A. Candidate

Dear Professor, September 21, 2004

The research project that your class is being invited to participate in is entitled, “The Manifestation of Self-Presentational Concerns in Various Populations.” Diane Stevens, Ph.D. a faculty member at Brock University, is conducting the study. Dr. Stevens’ main area of interest examines self-presentational concerns. The purpose of this study is to examine self-presentational concerns and eating behaviours in various populations (e.g., eating disordered vs. non-eating disordered).

Your involvement and feedback are greatly appreciated and will help to further our understanding of self-presentation and physical activity among undergraduate and graduate students. Members of the research team are writing to request your permission to enter into your class (PEKN ____ - course coded to be inserted) at a mutually convenient time. This letter further serves to identify the types of information we will be requested from class members. The questionnaire is expected to take approximately 30-35 minutes to complete the 117 item scale. Questions will be focused on topics such as: history of physical activity, why one exercises, body related anxiety, eating behaviours, and how one feels evaluated in the presence of others. Two sample questions from the questionnaire package include “I am concerned about what other people think of me” and “I am comfortable with how fit my body appears to others.”

The study that your class is being asked to participate in will involve individuals from classes at Brock University and Redeemer University College. Should permission be granted, student participation is completely voluntary. Results from this study will be used to enhance our understanding of self-presentation and physical activity within the undergraduate and graduate population. A written summary of our findings will be made available to you at the completion of the study should you request it (see attached Debriefing Form). Further dissemination will occur in academic journals and conference presentations; however, the specific identity of the participants in the study will not be disclosed. Any information that arises from participants will be treated with confidentiality and access to information that might identify participants will be limited to Diane Stevens (Principal Investigator) and Heather Strong (Co-Investigator). The names of specific participants in the study will not be attached to comments or issues raised within project reports or presentations generated from this study. Data will be kept in the locked office of Diane Stevens, at Brock University. Only those listed below will have access to the data. All original written documents will be destroyed two years following the completion of the study. Participation in this study is voluntary and individuals may decline answering any question(s) within the questionnaire that they find invasive, offensive or inappropriate. For those with body related anxiety, minimal risks (i.e., emotional responses) associated with participation may exist. For those who experience emotional reactions to participation, they may contact members of the research team for support. Participants may withdraw from the study at any stage in the process. Of course, people may choose not to participate and will not experience any negative consequences. Participation in this project is not connected to the eating disorders program and/or your personal evaluation.

The study has been reviewed and has received ethics approval through the Research Ethics Board at Brock University (File # 02-341). Following the completion of our study we would be happy to send you an executive summary of our results. Should you have any further questions concerning the study in general please feel free to contact Dr. Diane Stevens at (905) 688-5550 extension 4360 or by email at dsstevens@brocku.ca. Heather Strong may be contacted by email at heather_strong@sympatico.ca. Additionally, concerns about your involvement in the study may also be directed to the Research Ethics Officer in the Office of Research Services at (905) 688-5550 extension 3035.

Thank you for your interest and involvement in this study.

Sincerely,

Diane Stevens, Ph.D. 
Associate Professor,
Faculty of Applied Health Sciences

Heather Strong
M.A. Candidate
Co-investigator

This project is funded by the Social Sciences and Humanities Research Council

Thank you for your help! Please take one copy of this form with you for further reference
Self-Presentational Motives 117

Letter of Information – Participant (Homewood)
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations
Principal Researchers: Dr. Diane Stevens, Associate Professor, Dept. of Physical Education and Kinesiology and Heather Strong, M.A. Candidate

Dear Participant,

October 20, 2004

The research project that you are being invited to participate in is entitled, "The Manifestation of Self-Presentational Concerns in Various Populations." Diane Stevens, Ph.D. a faculty member at Brock University is conducting the study. Dr. Stevens’ main area of interest examines self-presentational concerns. The purpose of this study is to examine self-presentational concerns and exercise behaviours in various populations (e.g., individuals with eating disorders vs. individuals without eating disorders).

Your involvement and feedback are greatly appreciated and will help to further our understanding of self-presentation and physical activity among different populations. The questionnaire is expected to take approximately 20-25 minutes to complete the 54-item scale. Questions will be focused on topics such as: your history of physical activity, why you exercise, body related anxiety, and how you feel you are evaluated in the presence of others. Two sample questions from the questionnaire package include "I am concerned about what other people think of me" and "I am comfortable with how fit my body appears to others."

The study that you are being asked to participate in will involve individuals from classes at Brock University and Homewood Health Centre. Results from this study will be used to enhance our understanding of self-presentation and physical activity within different populations. A written summary of our findings will be made available to you at the completion of the study. Further dissemination will occur in academic journals and conference presentations; however, the specific identity of the participants in the study will not be disclosed. Any information that arises from participants will be treated with confidentiality and access to information that might identify participants will be limited to Diane Stevens (Principal Investigator) and Heather Strong (Co-Investigator). The names of specific participants in the study will not be attached to comments or issues raised within project reports or presentations generated from this study. Data will be kept in the locked office of Diane Stevens, at Brock University. Only those listed below will have access to the data. All original written documents will be destroyed two years following the completion of the study. Participation in this study is voluntary and individuals may decline answering any question(s) within the questionnaire that they find invasive, offensive or inappropriate. For those with body related anxiety, minimal risks (i.e., emotional responses) associated with participation may exist. For those who experience emotional reactions to participation, they may contact Monika Grau (Recreation Therapist) for support, or members of the research team. Participants may withdraw from the study at any stage in the process. Of course, people may choose not to participate and will not experience any negative consequences. Participation in this project is not connected to the eating disorders program and/or your personal evaluation.

The study has been reviewed and has received ethics approval through the Research Ethics Board at Brock University (File # 02-341). Following the completion of our study we would be happy to send you an executive summary of our results. Should you wish a summary, please complete the Debriefing Form attached. Should you have any further questions concerning the study in general please feel free to contact Dr. Diane Stevens at (905) 688-5550 extension 4360 or by email at dstevens@brocku.ca. Heather Strong may be contacted by email at heather.strong@sympatico.ca. Additionally, concerns about your involvement in the study may also be directed to the Research Ethics Officer in the Office of Research Services at (905) 688-5550 extension 3035.

Thank you for your interest and involvement in this study.

Sincerely,

Diane Stevens, Ph.D.
Associate Professor,
Faculty of Applied Health Sciences

Heather Strong
M.A. Candidate
Co-investigator
Self-Presentation Motives 118

Letter of Information – Participant
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations
Principal Researchers: Dr. Diane Stevens, Associate Professor, Dept. of Physical Education and Kinesiology and Heather Strong, M.A. Candidate

Dear Participant, September 21, 2004

The research project that you are being invited to participate in is entitled, “The Manifestation of Self-Presentational Concerns in Various Populations.” Diane Stevens, Ph.D., a faculty member at Brock University is conducting the study. Dr. Stevens’ main area of interest examines self-presentational concerns. The purpose of this study is to examine self-presentational concerns and eating behaviours in various populations (e.g., eating disordered vs. non-eating disordered).

Your involvement and feedback are greatly appreciated and will help to further our understanding of self-presentation and physical activity among undergraduate and graduate students. The questionnaire is expected to take approximately 30-35 minutes to complete the 117 item scale. Questions will be focused on topics such as: your history of physical activity, why you exercise, body related anxiety, eating behaviours, and how you feel you are evaluated in the presence of others. Two sample questions from the questionnaire package include “I am concerned about what other people think of me” and “I am comfortable with how fit my body appears to others”.

The study that you are being asked to participate in will involve individuals from classes at Brock University and Redeemer University College. Results from this study will be used to enhance our understanding of self-presentation and physical activity within the undergraduate and graduate population. A written summary of our findings will be made available to you at the completion of the study. Further dissemination will occur in academic journals and conference presentations; however, the specific identity of the participants in the study will not be disclosed. Any information that arises from participants will be treated with confidentiality and access to information that might identify participants will be limited to Diane Stevens (Principal Investigator) and Heather Strong (Co-Investigator). The names of specific participants in the study will not be attached to comments or issues raised within project reports or presentations generated from this study. Data will be kept in the locked office of Diane Stevens, at Brock University. Only those listed below will have access to the data. All original written documents will be destroyed two years following the completion of the study. Participation in this study is voluntary and individuals may decline answering any question(s) within the questionnaire that they find invasive, offensive or inappropriate. For those with body related anxiety, minimal risks (i.e., emotional responses) associated with participation may exist. For those who experience emotional reactions to participation, they may contact members of the research team for support. Participants may withdraw from the study at any stage in the process. Of course, people may choose not to participate and will not experience any negative consequences. Participation in this project is not connected to the eating disorders program and/or your personal evaluation.

The study has been reviewed and has received ethics approval through the Research Ethics Board at Brock University (File # 02-341). Following the completion of our study we would be happy to send you an executive summary of our results. Should you wish a summary, please complete the Debriefing Form attached. Should you have any further questions concerning the study in general please feel free to contact Dr. Diane Stevens at (905) 688-5550 extension 4360 or by email at dstevens@brocku.ca. Heather Strong may be contacted by email at heather.strong@sympatico.ca. Additionally, concerns about your involvement in the study may also be directed to the Research Ethics Officer in the Office of Research Services at (905) 688-5550 extension 3035.

Thank you for your interest and involvement in this study.

Sincerely,

Diane Stevens, Ph.D.
Associate Professor,
Faculty of Applied Health Sciences

Heather Strong
M.A. Candidate
Co-investigator
Appendix C

Informed Consent Form
Informed Consent Form – Professor
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations

Principal Researchers: Diane Stevens, PhD, Associate Professor, Dept. of Physical Education and Kinesiology, and Heather Strong, M.A. Candidate, Brock University

Name of Professor: (please print)

- I have been given and have read the Letter of Information provided to me by the Principal Investigator conducting the research.
- I understand that participation in this study will involve allowing class time for participant recruitment the completion of a questionnaire that will take approximately 30 - 35 minutes. The purpose of this investigation is to examine the manifestation of self-presentational concerns and eating behaviours across various (i.e., eating disordered and non-eating disordered) populations.
- I understand that the principal researcher will contact me with a mutually convenient time to arrange for participant recruitment and questionnaire distribution in my class.
- I understand that my class participation in this study is voluntary and class members may choose to withdraw from the study at any time and for any reason without penalty.
- I understand that I may ask questions of the researchers at any point during the research process.
- I understand that there is no obligation to answer any question that I feel is invasive, offensive or inappropriate.
- I understand that there will be no payment to myself or class members for my participation.
- I understand that all personal information will be kept strictly confidential and that all information will be coded so that the name of individual participants will not be associated with my specific answers.
- I understand that only the Principal Investigator and Co-investigator named above will have access to the data, and that information seen by the research assistants will not include my name. Data will be kept in a locked office at Brock University and will be shredded two years following completion of the study. I also understand that the research assistants have been asked to sign confidentially forms indicating that they will not discuss the study outside of research meetings with the Principal and Co-Investigator.
- I understand that participants may gain a better understanding of self-presentational concerns and their role in different populations. I understand that an executive summary of the results (which will not identify individuals) will be made available to the participants at the completion of the study if I have requested this information.
- I understand that the results of this study will be distributed in academic journal articles and conference presentations.
- As indicated by my signature below, I acknowledge that I am allowing the principal researcher to come into my class and recruit participants and distribute questionnaires that should only take up approximately 30-35 minutes of my class time. I am acknowledging that by signing this consent form I am participating freely and willingly and I am providing my consent.

Signature of Professor: ___________________________ Date: ________________

This study has been reviewed and approved by the Brock Research Ethics Board (File#_______)

If you have any questions or concerns about your participation in the study, you may contact Dr. Diane Stevens at 905-688-5550, extension 4360 or by email at dsteven@brocku.ca. Heather Strong may be contacted by email at heather.strong@sympatico.ca. Concerns about your involvement in the study may also be directed to Research Ethics Officer in the Office of Research Services at 905-688-5550, extension 3035.

Feedback about the use of the data collected will be available in July 2004, from Diane Stevens in the Faculty of Applied Health Sciences at Brock University. A written explanation will be provided for you upon request.

I have fully explained the procedures of this study to the above volunteer participant.

Researchers Signature: ___________________________ Date: ________________
Informed Consent Form – Recreation Therapist Homewood
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations
Principal Researchers: Dr. Diane Stevens, Associate Professor, Dept. of Physical Education and Kinesiology,
and Heather Strong, M.A. Candidate, Brock University

Name of Team Representative: (please print)

- I have been given and have read the Letter of Information provided to me by the Student Investigator conducting the
research. The purpose of this investigation is to examine the prevalence of self-presentational concerns in the
eating disordered population and explore the effectiveness of physical activity as a coping mechanism in treatment.
- I understand that participation will involve completing a questionnaire that will take approximately 40 - 45 minutes of
individual patient time.
- I understand that participation may be associated with minimal risk/harm. Completion of the questionnaire package
may induce feelings of body related anxiety. For those where anxiety is induced, contact information is included and
support will be offered.
- I understand that participation in this study is voluntary and that individuals may withdraw from the study at any time
and for any reason without penalty.
- I understand that the Recreation Therapist will provide members of the Research Team with information from
participants’ files.
- I understand that any team member may ask questions of the researchers at any point during the research process.
- I understand that there is no obligation for participants to answer any question that they feel is invasive, offensive or
inappropriate.
- I understand that there will be no payment for Homewood’s participation.
- I understand that all personal information will be kept strictly confidential and that all information will be coded so
that the name of individual participants will not be associated with specific answers.
- I understand that only the Faculty Advisor and Student Investigator named above will have access to the data, and
that information seen by the research assistants will not include individual names. Data will be kept in a locked office
at Brock University and will be shredded two years following completion of the study.
- I understand that participants may gain a better understanding of self-presentational concerns within the eating
disordered population and the role physical activity plays in treatment. I understand that Homewood Health Centre
Eating Disorders Program will receive an executive summary of the results (which will not identify individuals).
- I understand that the results of this study will be distributed in academic journal articles and conference
presentations and a summary of the results will be made available to Homewood Health Center’s In-patient Eating
Disorders Program and participants in the study.
- As indicated by my signature below, I acknowledge that Homewood Health Centre – In-Patient Eating Disorders
Program is participating freely and willingly and I am providing my consent.

Signature of Eating Disorders Team Representative:_____________________________ Date:________________

This study has been reviewed and approved by the Brock Research Ethics Board (File#__________).

If you have any questions or concerns about your participation in the study, you may contact Dr. Diane Stevens at 905-688-5550, extension 4360 or by
email at dianestevens@amw.pec.on.ca. Heather Strong may be contacted by email at Heather.Strong@brocku.ca. Concerns about your involvement in the study
may also be directed to Research Ethics Officer in the Office of Research Services at 905-688-5550, extension 3035.

Feedback about the use of the data collected will be available in July 2004, from Diane Stevens in the Faculty of Applied Health Sciences at Brock
University. A written explanation will be provided for you upon request.

Thank you for your help! Please take a copy of this form with you for future reference.
Informed Consent Form – Participant (Homewood)
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations

Principal Researchers: Diane Stevens, PhD, Associate Professor, Dept. of Physical Education and Kinesiology, and Heather Strong, M.A. Candidate, Brock University

Name of Participant: (please print)

- I have been given and have read the Letter of Introduction provided to me by the Principal Investigator conducting the research.
- I understand that participation will involve completing a questionnaire that will take approximately 20 - 25 minutes. The purpose of this investigation is to examine the manifestation of self-presentational concerns and exercise behaviours across various (i.e., individuals with eating disorders and individuals without eating disorders) populations.
- I understand that my participation may be associated with minimal risk/harm. Completion of the questionnaire package may induce feelings of body related anxiety. For those where anxiety is induced, contact information is included and support will be offered.
- I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reason without penalty.
- I understand that I may ask questions of the researchers at any point during the research process.
- I understand that there is no obligation to answer any question that I feel is invasive, offensive or inappropriate.
- I understand that there will be no payment for my participation.
- I understand that all personal information will be kept strictly confidential and that all information will be coded so that the name of individual participants will not be associated with my specific answers.
- I understand that only the Principal Investigator and Co-investigator named above will have access to the data, and that information seen by the research assistants will not include my name. Data will be kept in a locked office at Brock University and will be shredded two years following completion of the study. I also understand that the research assistants have been asked to sign confidentiality forms indicating that they will not discuss the study outside of research meetings with the Principal and Co-investigator.
- I understand that participants may gain a better understanding of self-presentational concerns and their role in different populations. I understand that an executive summary of the results (which will not identify individuals) will be made available to me at the completion of the study if I have requested this information.
- I understand that the results of this study will be distributed in academic journal articles and conference presentations.
- As indicated by my signature below, I acknowledge that I am participating freely and willingly and I am providing my consent.

Signature of Participant: ______________________________ Date: ________________

This study has been reviewed and approved by the Brock Research Ethics Board (File # 02-341)
If you have any questions or concerns about your participation in the study, you may contact Dr. Diane Stevens at 905-688-5550, extension 4360 or by email at dianestevens@brocku.ca. Heather Strong may be contacted by email at heather.strong@sympatico.ca. Concerns about your involvement in the study may also be directed to Research Ethics Officer in the Office of Research Services at 905-688-5550, extension 3035.

Feedback about the use of the data collected will be available in July 2004, from Diane Stevens in the Faculty of Applied Health Sciences at Brock University. A written explanation will be provided for you upon request.

I have fully explained the procedures of this study to the above volunteer participant.
Researchers Signature_________________________ Date: __________________

I have fully explained the procedures of this study to the above volunteer participant.
Researchers Signature_________________________ Date: __________________
Informed Consent Form - Participant
Brock University, Faculty of Applied Health Sciences

Title of Study: The Manifestation of Self-Presentational Concerns in Various Populations

Principal Researchers: Diane Stevens, PhD, Associate Professor, Dept. of Physical Education and Kinesiology, and Heather Strong, M.A. Candidate, Brock University

Name of Participant: (please print)

I have been given and have read the Letter of Introduction provided to me by the Principal Investigator conducting the research.

- I understand that participation will involve completing a questionnaire that will take approximately 30 - 35 minutes. The purpose of this investigation is to examine the manifestation of self-presentational concerns and eating behaviours across various (i.e., eating disordered and non-eating disordered) populations.
- I understand that my participation may be associated with minimal risk/harm. Completion of the questionnaire package may induce feelings of body related anxiety. For those where anxiety is induced, support information is included and support will be offered.
- I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reason without penalty.
- I understand that I may ask questions of the researchers at any point during the research process.
- I understand that there is no obligation to answer any question that I feel is invasive, offensive or inappropriate.
- I understand that there will be no payment for my participation.
- I understand that all personal information will be kept strictly confidential and that all information will be coded so that the name of individual participants will not be associated with my specific answers.
- I understand that only the Principal Investigator and Co-investigator named above will have access to the data, and that information seen by the research assistants will not include my name. Data will be kept in a locked office at Brock University and will be shredded two years following completion of the study. I also understand that the research assistants have been asked to sign confidentially forms indicating that they will not discuss the study outside of research meetings with the Principal and Co-investigator.
- I understand that participants may gain a better understanding of self-presentational concerns and their role in different populations. I understand that an executive summary of the results (which will not identify individuals) will be made available to me at the completion of the study if I have requested this information.
- I understand that the results of this study will be distributed in academic journal articles and conference presentations.
- As indicated by my signature below, I acknowledge that I am participating freely and willingly and I am providing my consent.

Signature of Participant: __________________________ Date: _______________

This study has been reviewed and approved by the Brock Research Ethics Board (File # 02-341)

If you have any questions or concerns about your participation in the study, you may contact Dr. Diane Stevens at 905-688-5550, extension 4360 or by email at dstevens@brocku.ca. Heather Strong may be contacted by email at heather.strong@sympatico.ca. Concerns about your involvement in the study may also be directed to Research Ethics Officer in the Office of Research Services at 905-688-5550, extension 3035.

Feedback about the use of the data collected will be available in July 2004, from Diane Stevens in the Faculty of Applied Health Sciences at Brock University. A written explanation will be provided for you upon request.

I have fully explained the procedures of this study to the above volunteer participant.

Researchers Signature: __________________________ Date: _______________
Appendix D

Participant Debriefing Form

[Form fields for participant feedback, comments, etc.]
Participants - Debriefing Form

If you would like to receive a summary of the results of the study please complete the following information.

If you would like to receive the information by mail please provide your name and address:

Name: _____________________________
(First Name) (Last Name)

Address: ___________________________
(Street Number) (Street)

(City) (Province) (Postal Code)

If you would like to receive the information by email:

Name: _____________________________

Email Address: _____________________________
Appendix E

Questionnaire Package
THANK YOU FOR AGREEING TO PARTICIPATE IN THIS RESEARCH PROJECT

This package contains thirteen pages in total, including this cover page. Page 2 includes a set of questions that tells us more about you and your background. Pages 3 & 4 include questions about your history of physical activity. Pages 5-12 include questions about your thoughts and feelings about your body appearance, eating behaviours and physical activity in various situations. Page 13 is comprised of a list of resources that you may take with you.

Your name is not required anywhere in this package. All of your responses will remain confidential. No person other than the members of the research team will have access to your responses.

There are no “right” or “wrong” answers. Be as honest and as accurate as you can in answering each question.

Thanks for your participation!
THANK YOU FOR ALLOCING TO PARTICIPATE IN THE
RESEARCH PROJECT

[Text continues on the page with multiple paragraphs and sections, discussing various points and questions related to the research project.]
ALL ANSWERS WILL REMAIN PRIVATE AND CONFIDENTIAL

Instructions: We are interested in learning more about your background. Please follow the directions carefully and fill in all of the questions.

1. What is your age (in years)?

2. What is your gender?

3. What is your height (in cm or inches)?

4. What is your weight (in lbs or kgs)?

5. Have you ever been diagnosed with or been treated for an eating disorder? (circle one)

YES (If yes - please continue with questions 6 & 7)  NO (If no – please skip to question 8)

6. If yes what have you been diagnosed with or treated for? (circle one)
   a) Anorexia Nervosa  b) Bulimia Nervosa  c) Eating Disorder Not Otherwise Specified  d) Binge Eating Disorder  e) Other (please explain)

7. Are you currently seeking treatment for an eating disorder? (please circle one)

YES  NO

a.) If you answered YES – how long have you been in treatment for your eating disorder? __________________

b.) When did your eating disorder start (age of onset?) __________________

c.) If you answered NO – would you consider yourself ____________... (please circle one):
   a. A person who has recovered from an eating disorder.
   b. A person who is seeking more information about treatment for eating disorders.
   c. A person who is on a waiting list for a treatment program for eating disorders.
   d. I don’t really think I have an eating disorder.
   e. Other (please explain)__________________________________________________________
Instructions:
Here we want to know a little bit about your physical activity patterns over your lifetime. Specifically we are asking you about your occupational and exercise/sport activities. So break it down for us.

8. Your occupational activities. What jobs (paid or volunteer) have you done at least 8 hours a week for four months of the year over your lifetime? Please fill in the information in the appropriate boxes. Describe the job that you had, the age that you started working at this job and the age when you ended doing this job. Also list the number of years/months, the number of days per week, the number of hours per day and the intensity of the job.

*Intensity of occupational activities defined as:
1 = jobs that require only sitting with minimal walking
2 = jobs that require a minimal amount of physical effort such as standing and slow walking with no increase in heart rate or perspiration
3 = jobs that require carrying lights loads (5-10lbs), continuous walking, mainly indoor activity and that would increase the heart rate slightly with light perspiration
4 = jobs that require carrying heavy loads (>10lbs), brisk walking, climbing, outdoor activity, and an increase in heart rate, heavy sweating

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<th>No.</th>
<th>Description of Occupational Activity</th>
<th>Age Started</th>
<th>Age Ended</th>
<th>No. of Months/Year</th>
<th>No. of Days/Week</th>
<th>Time per day</th>
<th>Intensity of Activity</th>
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9. **Tell us about your exercise/sport activities.** What kind of exercise or sports have you done over your lifetime? Please report the activities you have done **at least 2 hours per week for at least 4 months** of the year. Besides sports and exercise we also want to know if you biked or walked to work/school. If you have done this please report it as exercise activity. Please begin by telling us what activities you did during your school years (i.e., physical education classes).

* **Intensity of activities defined as:**
  1 = activities that are done while sitting; 2 = activities that require minimal effort (i.e., a light walk); 3 = activities that are not exhausting, that increase heart rate slightly, and may cause slight perspiration; 4 = activities that increase the heart rate and cause heavy sweating.

| No. | Description of Exercise/Sport Activities (i.e. walking, biking, running, weight lifting, etc) | Age Started | Age Ended | Frequency of Activity | Time per activity | *Intensity of Leisure Activity*
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**Instructions**

Read each of the following statements carefully and indicate with a check or “x” in the appropriate box the degree to which the statement is characteristic or true of you, according to the following scale.

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<th>Not at all characteristic 1</th>
<th>Slightly Characteristic 2</th>
<th>Moderately Characteristic 3</th>
<th>Very Characteristic 4</th>
<th>Extremely Characteristic 5</th>
</tr>
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<tbody>
<tr>
<td>10.</td>
<td>I worry about what other people think of me even when I know it doesn’t make a difference.</td>
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<td>11.</td>
<td>I am unconcerned even if I know people are forming an unfavorable impression of me.</td>
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<td>12.</td>
<td>I am frequently afraid of other people noticing my shortcomings.</td>
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<td>13.</td>
<td>I rarely worry about what kind of impression I am making on someone.</td>
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<td>14.</td>
<td>I am afraid others will not approve of me.</td>
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</tr>
<tr>
<td>15.</td>
<td>I am afraid that others will find fault with me.</td>
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</tr>
<tr>
<td>16.</td>
<td>Other people’s opinions of me do not bother me.</td>
<td>[ ]</td>
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</tr>
<tr>
<td>17.</td>
<td>When I am talking to someone, I worry about what they may be thinking about me.</td>
<td>[ ]</td>
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</tr>
<tr>
<td>18.</td>
<td>I am usually worried about what kind of impression I make.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>19.</td>
<td>If I know someone is judging me, it has little effect on me.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>20.</td>
<td>Sometimes I think I am too concerned with what other people think of me.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>21.</td>
<td>I often worry that I will say or do the wrong things</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>22.</td>
<td>I am concerned about my style of doing things.</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>23.</td>
<td>I am concerned about the way I present myself.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>24.</td>
<td>I am self-conscious about the way I look.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>25.</td>
<td>I usually worry about making a good impression.</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td></td>
<td>Not at all characteristic</td>
<td>Slightly Characteristic</td>
<td>Moderately Characteristic</td>
<td>Very Characteristic</td>
<td>Extremely Characteristic</td>
</tr>
<tr>
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</tr>
<tr>
<td>26.</td>
<td>One of the last things I do before I leave the house is look in the mirror.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>27.</td>
<td>I'm concerned about what other people think of me.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>28.</td>
<td>I'm usually aware of my appearance.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>29.</td>
<td>I wish I wasn't so uptight about my physique/figure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>31.</td>
<td>Unattractive features of my physique/figure make me nervous in social settings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32.</td>
<td>In the presence of others, I feel apprehensive about my physique/figure.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>33.</td>
<td>I am comfortable with how fit my body appears to others.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>34.</td>
<td>It would make me uncomfortable to know others were evaluating my physique/figure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>When it comes to displaying my physique/figure to others, I am a shy person.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>I usually feel relaxed when it is obvious that others are looking at my physique/figure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>When in a bathing suit, I often feel nervous about the shape of my body.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Instructions: Think about the physical activity that you are involved in. Using any values from this scale (0 to 100%, please indicate in the boxes provided how confident you are for each of the following):

| 0% | 50% | 100% |
|---------------------------------|
| Not at all confident | | Completely Confident |

How confident are you that....

<table>
<thead>
<tr>
<th>38. Other people will think that you have good cardiovascular endurance</th>
<th>39. Other people will think that you have good muscle tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. Other people will think that your body looks fit</td>
<td>41. Other people will think that you are strong</td>
</tr>
<tr>
<td>42. Other people will think that you have good stamina</td>
<td>43. Other people will think that you are flexible</td>
</tr>
<tr>
<td>44. Other people will think that you are someone who works out regularly</td>
<td>45. Other people will think that you have good posture</td>
</tr>
<tr>
<td>46. Other people will think that you are in good shape</td>
<td>47. Other people will think that you are an exerciser</td>
</tr>
</tbody>
</table>

Instructions:

Using the following 6-point scale, fill in the column with a check or an "x" with the statement that best describes the extent to which you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Strongly Agree 1</th>
<th>Moderately Agree 2</th>
<th>Agree 3</th>
<th>Disagree 4</th>
<th>Moderately Disagree 5</th>
<th>Strongly Disagree 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>48. By exercising regularly, other people will think that I have good cardiovascular endurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. By exercising regularly, other people will think that my body is fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. By exercising regularly, other people will think that I have good stamina</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>51. By exercising regularly, other people will think of me as someone who works out</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. By exercising regularly, other people will think I am in good shape</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53. By exercising regularly, other people will think that I have good muscle tone</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. By exercising regularly, other people will think that I am strong</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>55. By exercising regularly, other people will think that I am flexible</td>
<td></td>
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<tr>
<td>Column A</td>
<td>Column B</td>
<td>Column C</td>
<td>Column D</td>
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</tr>
<tr>
<td>Data 1</td>
<td>Data 2</td>
<td>Data 3</td>
<td>Data 4</td>
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<tr>
<td>Data 5</td>
<td>Data 6</td>
<td>Data 7</td>
<td>Data 8</td>
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<tr>
<td>Data 9</td>
<td>Data 10</td>
<td>Data 11</td>
<td>Data 12</td>
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<tr>
<td>Data 13</td>
<td>Data 14</td>
<td>Data 15</td>
<td>Data 16</td>
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<tr>
<td>Data 17</td>
<td>Data 18</td>
<td>Data 19</td>
<td>Data 20</td>
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<tr>
<td>Data 21</td>
<td>Data 22</td>
<td>Data 23</td>
<td>Data 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data 25</td>
<td>Data 26</td>
<td>Data 27</td>
<td>Data 28</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The table continues with similar structures and data entries.
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Moderately Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Moderately Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.</td>
<td>By exercising regularly, other people will think that I have good posture</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>57.</td>
<td>By exercising regularly, other people with think that I am an exerciser</td>
<td></td>
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</tr>
<tr>
<td>58.</td>
<td>I place a lot of value on being known as someone who has good cardiovascular endurance</td>
<td></td>
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</tr>
<tr>
<td>59.</td>
<td>I place a lot of value on being known as someone who is physically fit</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>60.</td>
<td>I place a lot of value on being known as someone who has good stamina</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>61.</td>
<td>I place a lot of value on being known as someone who works out regularly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62.</td>
<td>I place a lot of value on being known as someone who is in good shape</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>63.</td>
<td>I place a lot of value on being known as someone who has good muscle tone</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>64.</td>
<td>I place a lot of value on being known as someone who is strong</td>
<td></td>
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</tr>
<tr>
<td>65.</td>
<td>I place a lot of value on being known as someone who is flexible</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>66.</td>
<td>I place a lot of value on being known as someone who has good posture</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>67.</td>
<td>I place a lot of value on being known as someone who is an exerciser</td>
<td></td>
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</tr>
</tbody>
</table>
Instructions:

On the following pages are a number of statements concerning the reasons people often give when asked why they exercise. Whether you currently exercise regularly or not, please read each statement carefully and indicate, by placing an "x" or check in the appropriate box whether or not each statement is true for you personally, or would be true for you personally if you did exercise. If you do not consider a statement to be true for you at all, place an "x" in the 0 box or the "Not at all true for me" box. If you think a statement is very true for you place an "x" in the 5 box or the "very true for me" box. If you think a statement is partly true for you, then check the 1, 2, 3, or 4, boxes according to how strongly you feel that it reflects why you exercise or why you might exercise.

Remember, we want to know why you personally choose to exercise or might choose to exercise, not whether you think the statements are good reasons for anybody to exercise.

<table>
<thead>
<tr>
<th>Personally, I exercise (or might exercise)</th>
<th>Not at all true for me</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>68. To stay slim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69. To help me look younger</td>
<td></td>
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<tr>
<td>70. To show my worth to others</td>
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<tr>
<td>71. To build up my strength</td>
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<tr>
<td>72. To spend time with friends</td>
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<tr>
<td>73. Because I like trying to win in physical activities</td>
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<tr>
<td>74. To stay/become more agile</td>
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<tr>
<td>75. To lose weight</td>
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<tr>
<td>76. To have a good body</td>
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<tr>
<td>77. To compare my abilities with other peoples'</td>
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<tr>
<td>78. To increase my endurance</td>
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<td></td>
</tr>
<tr>
<td>Personally, I exercise (or might exercise) …</td>
<td>Not at all true for me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very true for me</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------</td>
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</tr>
<tr>
<td>79. To enjoy the social aspects of exercising</td>
<td></td>
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<tr>
<td>80. Because I enjoy competing</td>
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<tr>
<td>81. To maintain flexibility</td>
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<tr>
<td>82. To help control my weight</td>
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<tr>
<td>83. To improve my appearance</td>
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<tr>
<td>84. To gain recognition for my accomplishments</td>
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<tr>
<td>85. To get stronger</td>
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<tr>
<td>86. To have fun being active with other people</td>
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</tr>
<tr>
<td>87. Because I enjoy physical competition</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>88. To stay/become flexible</td>
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<tr>
<td>89. Because exercise helps me to burn calories</td>
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<tr>
<td>90. To look more attractive</td>
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<tr>
<td>91. To accomplish things that others are incapable of</td>
<td></td>
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<tr>
<td>92. To develop my muscles</td>
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<tr>
<td>93. To make new friends</td>
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<tr>
<td>94. Because I find physical activities fun, especially when competition is involved</td>
<td></td>
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</tr>
</tbody>
</table>
**Instructions:** In this section we are interested in finding out some information about your eating behaviours. Using the following 6-point scale, fill in the column with a check or an "x" with the statement that best describes your behaviours with the following statements:

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Usually</th>
<th>Often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>95.</td>
<td>I eat sweets and carbohydrates without feeling nervous.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96.</td>
<td>I think about dieting.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>97.</td>
<td>I feel extremely guilty after overeating.</td>
<td></td>
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</tr>
<tr>
<td>98.</td>
<td>I am terrified of gaining weight.</td>
<td></td>
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</tr>
<tr>
<td>99.</td>
<td>I exaggerate or magnify the importance of weight.</td>
<td></td>
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</tr>
<tr>
<td>100.</td>
<td>I am preoccupied with the desire to be thinner.</td>
<td></td>
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</tr>
<tr>
<td>101.</td>
<td>If I gain a pound, I worry that I will keep gaining.</td>
<td></td>
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</tr>
<tr>
<td>102.</td>
<td>I eat when I am upset.</td>
<td></td>
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</tr>
<tr>
<td>103.</td>
<td>I stuff myself with food.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>104.</td>
<td>I have gone on eating binges where I have felt that I could not stop.</td>
<td></td>
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</tr>
<tr>
<td>105.</td>
<td>I think about bingeing (overeating).</td>
<td></td>
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<tr>
<td>106.</td>
<td>I eat moderately in front of others and stuff myself when they're gone.</td>
<td></td>
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</tr>
<tr>
<td>107.</td>
<td>I have thought of trying to vomit in order to lose weight.</td>
<td></td>
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</tr>
<tr>
<td>108.</td>
<td>I eat or drink in secrecy.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>109.</td>
<td>I think my stomach is too big.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110.</td>
<td>I think that my thighs are too large.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111.</td>
<td>I think that my stomach is just the right size.</td>
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<td>456 Blvd</td>
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<td>444 Way</td>
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This table lists the personal information of various individuals, including their name, age, gender, address, and phone number.
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<th>Sometimes</th>
<th>Rarely</th>
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<td>112.</td>
<td>I feel satisfied with the shape of my body.</td>
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<td>113.</td>
<td>I like the shape of my buttocks.</td>
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<td>114.</td>
<td>I think my hips are too big.</td>
<td></td>
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<tr>
<td>115.</td>
<td>I think that my thighs are just the right size.</td>
<td></td>
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<tr>
<td>116.</td>
<td>I think that my buttocks are too large.</td>
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<td>117.</td>
<td>I think my hips are just the right size.</td>
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Please find a list of resources on the following page.
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<th>Name</th>
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<td>Coach</td>
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<td>9</td>
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</table>

Please find a list of damages or the following image.
**EATING DISORDER RESOURCES**

If you or someone you know is struggling with issues surrounding food and weight preoccupation, there are a lot of valuable resources out there that can help you!

Here is a short list of some places that you can contact to get help:

<table>
<thead>
<tr>
<th>Information &amp; Resource Centre</th>
<th>Phone number</th>
<th>Website</th>
<th>Email Address</th>
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<tbody>
<tr>
<td>National Eating Disorder Information Centre</td>
<td>1-866-NEDIC-20</td>
<td><a href="http://www.nedic.ca">www.nedic.ca</a></td>
<td><a href="mailto:nedic@uhn.on.ca">nedic@uhn.on.ca</a></td>
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<tr>
<td>Sheena’s Place – Support Centre</td>
<td>(416) 927-8900</td>
<td><a href="http://www.sheenasplace.org">www.sheenasplace.org</a></td>
<td><a href="mailto:loleksyn@sheenasplace.org">loleksyn@sheenasplace.org</a></td>
</tr>
<tr>
<td>New Port Centre</td>
<td></td>
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<tr>
<td>Eating Disorders Program</td>
<td>(905) 834-4501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Port Colborne – Treatment Services Niagara Region)</td>
<td>x. 2532</td>
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<tr>
<td>St. Joesphs Eating Disorder Program</td>
<td>(905) 522-1155</td>
<td></td>
<td><a href="mailto:hmahon@stjosham.on.ca">hmahon@stjosham.on.ca</a></td>
</tr>
<tr>
<td>(Hamilton – Treatment Services Niagara and Hamilton)</td>
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<tr>
<td>Homewood Health Centre (Treatment Centre)</td>
<td>(519) 824-1010</td>
<td><a href="http://www.homewoodhealth.com">www.homewoodhealth.com</a></td>
<td></td>
</tr>
<tr>
<td>Something Fishy (Eating Disorder Resource Website)</td>
<td></td>
<td><a href="http://www.somethingfishy.org">www.somethingfishy.org</a></td>
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<tr>
<td>Canadian Women’s Health Network Eating Disorders &amp; Body Image Resources (On line Canadian resources)</td>
<td></td>
<td><a href="http://www.cwhn.ca/resource/edbi.html">http://www.cwhn.ca/resource/edbi.html</a></td>
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Appendix F

List of Abbreviations
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<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<td>Anorexia Nervosa</td>
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<td>BN</td>
<td>Bulimia Nervosa</td>
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<td>EDNOS</td>
<td>Eating Disorders Not Otherwise Specified</td>
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<td>IN</td>
<td>In-treatment group</td>
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<tr>
<td>AT</td>
<td>At-risk group</td>
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<td>NOT</td>
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<td>SPM</td>
<td>Self-Presentation Motivation</td>
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<tr>
<td>IM</td>
<td>Impression Motivation</td>
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<tr>
<td>IC</td>
<td>Impression Construction</td>
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<tr>
<td>FNE</td>
<td>Fear of Negative Evaluation</td>
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<td>PSC</td>
<td>Public Self-Consciousness</td>
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<td>SPA</td>
<td>Social Physique Anxiety</td>
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<td>SPE</td>
<td>Self-Presentational Efficacy</td>
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<td>Self-Presentational Efficacy Expectancy</td>
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<td>Self-Presentational Outcome Expectancy</td>
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<td>SPOV</td>
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<td>Competition</td>
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<td>Strength and Endurance</td>
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<td>Weight Management</td>
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<td>Self-Presentational Exercise Motives</td>
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<td>APA</td>
<td>American Psychological Association</td>
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