

DOES SELF-COMPASSION MATTER BEYOND SELF-ESTEEM WITH
WOMEN'S SELF-DETERMINED MOTIVES TO EXERCISE
AND EXERCISE OUTCOMES?

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ABSTRACT

According to the Canadian Community Health Survey, fifty-nine percent of Canadian women are not getting enough exercise to receive health benefits (Canadian Fitness & Lifestyle Institute, 2001). Engaging in regular exercise has been found to provide significant psychological and physical health benefits, such as reduced depression, anxiety, and increased well-being (Bouchard, Shephard, Stephens, Sutton, & Mcpherson, 1990; Georgia State University, 1997; National Center for Chronic Disease Prevention and Health Promotion, 1999; Roth & Holmes, 1987). Therefore, increasing exercise participation contributes to enhancing the well-being of women. The purpose of this study was to examine how self-compassion would be related to self-determined motives to exercise and to outcomes in the exercise domain, and whether self-compassion would explain unique variance beyond self-esteem on those variables. There were two main hypotheses. First, that self-compassion would be positively related to identified, integrated, and intrinsic motives to exercise and to task goals; and negatively related to external and introjected motives to exercise, ego goals, social physique anxiety, and obligatory exercise. Second, it was hypothesized that self-compassion would predict unique variance over and above self-esteem with motivation, goal orientation, physique anxiety, and exercise behaviour. The participants were 252 adult female exercisers, ranging in age from 17 to 43 years, recruited from a small mid-western Canadian university. Participants completed an online survey including the Behavioural Regulations in Exercise Questionnaire (Wilson, Rodgers, Loitz, & Scime, 2006), Rosenberg's Self-Esteem Questionnaire (Rosenberg, 1965), the Self-Compassion Scale (Neff, 2003b), the Goal Orientation in Exercise Measure (Petherick & Markland, 2005),

the Social Physique Anxiety Scale (Martin, Rejeski, Leary, McAuley, & Bane, 1997), the Obligatory Exercise Questionnaire (Pasman & Thompson, 1998), and the Godin Leisure Time Exercise Questionnaire (Godin & Shepard, 1985). Correlational analyses revealed that self-compassion was positively related to intrinsic motivation ($r = 0.19$), and negatively related to external ($r = -0.24$) and introjected ($r = -0.41$) motivation, ego goals ($r = -.20$), social physique anxiety ($r = -.57$), and obligatory exercise behaviour ($r = -.24$). Hierarchical regression analyses showed that self-compassion contributed negative unique variance over and above self-esteem on introjected motivation ($\Delta R^2 = .035$), ego goals ($\Delta R^2 = .028$), social physique anxiety ($\Delta R^2 = .042$), and obligatory exercise ($\Delta R^2 = .018$). The present study provides evidence that self-compassion is related to motives to exercise and various outcomes of exercise. Further, this study extends the use of self-determination theory and supports that future research continue to explore the role of self-concept in motivation. Outcomes of well-being were found to be related to self-compassion, suggesting that perhaps self-compassion is a promising construct that may be used to foster long-term women's exercise motives.

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*I can no other answer make, but, thanks, and thanks.
~William Shakespeare*

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CHAPTER 1

1.1 INTRODUCTION

Statistics indicate that women are more inactive than men (Canadian Fitness & Lifestyle Institute, 2001; Craig, Russell, Cameron, & Beaulieu, 1999; National Center for Chronic Disease Prevention & Health Promotion, 1999), and according to the most recent Canadian Community Health Survey, fifty-nine percent of Canadian women are not getting enough exercise to receive health benefits (Canadian Fitness & Lifestyle Institute, 2001). Engaging in regular exercise has been found to provide significant psychological and physical health benefits, such as reduced depression, anxiety, heart disease, high blood pressure, colon cancer, breast cancer, and increased well-being (Bouchard, Shephard, Stephens, Sutton, & Mcpherson, 1990; Georgia State University, 1997; National Center for Chronic Disease Prevention & Health Promotion, 1999). Therefore, increasing exercise participation enhances the well-being of women. To increase exercise participation, it is important to examine women's motivation to exercise (Landry & Solmon, 2002).

Self-determination theory has gained credibility in the exercise domain as being able to contribute to our understanding of motivation to exercise (Wilson & Rodgers, 2002; Wilson, Rodgers, Fraser, & Murray, 2004). Self-determination theory identifies several distinct types of motivation, each of which has specific consequences for well-being and performance (Ryan & Deci, 2000). These different types of motivation or

behavioural regulations comprise a self-determination continuum. This continuum ranges from controlled or extrinsic motivations, which are behaviours pressured and coerced by intrapsychic and environmental forces, to autonomous or self-determined motivations, which are behaviours initiated and regulated through choice as an expression of oneself (Deci & Ryan, 2000). The more autonomous motivations have been found to be linked to positive motivational outcomes, such as well-being and long-term motivation in the exercise domain (Wilson, Rodgers, Fraser, & Murray, 2004). According to the theory, the type of motivation engaged in depends on whether the social context is perceived as more controlling or more autonomous (Ryan & Deci, 2000). It has recently been suggested that the type of motivation engaged in can also be influenced by self-esteem (Ryan & Brown, 2003).

The self-esteeming process has been suggested by Ryan and Brown (2003) to lend itself more to extrinsic than autonomous types motivation. Ryan and Brown explained that a focus on self-esteem results in behaviour being more controlled since behaviour becomes motivated to gain or maintain self-worth, leaving one vulnerable to unfulfilling goals and inauthentic living. The self-determination literature suggests that self-esteem may not be the most effective conceptualization of the self in promoting self-determined motives, since it is more likely to foster extrinsic motives not associated with maximum well-being (Ryan & Brown, 2003).

Neff (2003a) suggested that the construct of self-compassion be considered as a healthy alternative conceptualization of the self. Self-compassion emphasizes feelings of self-kindness, common humanity, and mindfulness. When people are self-compassionate, they feel good about themselves because they are human and worthy of kindness (Neff, 2004). Self-compassion operates as an effective emotional regulation

strategy by neutralizing negative emotional patterns and engendering more positive feelings of kindness and connectedness (Neff, Hsieh, & Dejitterat, 2005). Self-compassion does not encourage comparisons with others. Recently, Neff, Hsieh, and Dejitterat (2005) explored the relationship between self-compassion and motivational regulations in an academic setting. They found that self-compassion was associated with adaptive autonomous academic motivational patterns, suggesting support for self-compassion as an alternative conceptualization of the self compared to self-esteem.

The present study examined the question, does self-compassion matter beyond self-esteem with women's self-determined motives to exercise and exercise outcomes? Specifically, this study explored whether self-compassion, as a way to define and think about healthy self-attitudes, was related to more autonomous motivations to exercise for young adult women that exercise. Further, this study explored if self-compassion was related to outcomes of well-being in the exercise domain. It was hypothesized that self-compassion would predict unique variance over and above self-esteem with motives to exercise and outcomes of well-being due the accepting nature of self-compassion.

1.2 REVIEW OF THE LITERATURE

1.2.1 Women and exercise

The primary goal of the present study is to determine the relationships among self-compassion, self-esteem, self-determined motives to exercise, and exercise outcomes. These relationships will be explored in the context of women's experiences. Exploring women's motivation to exercise has been identified as important for a variety of reasons. First, women exercise less than their male counterparts; thus, there is a need to further understand the psychological mechanisms that regulate women's motivation (Canadian Fitness & Lifestyle Institute, 2001; Wilson & Rodgers, 2002). Second, women typically

report precarious motives to exercise, such as body dissatisfaction, that are more likely to be ineffective over time (Frederick & Ryan, 1993; Ingledew, Markland, & Medley 1998; Tiggemann & Williamson, 2000). Given that women tend to gravitate toward short-term motivation to exercise, learning more about women's motivation to exercise may help to facilitate long-term exercise habits. Third, in a recent review on women and exercise, it was recommended that more research is needed to better understand women's experiences with physical activity (Landry & Solmon, 2002). Thus, in this study the relationship between self-compassion, self-esteem, self-determined motives to exercise, and exercise outcomes were explored with women who exercise. Specifically, young adult women exercisers were of interest in the present study.

1.2.2 Self-determination theory

Research indicates that understanding motivation is key to predicting and initiating long-term exercise (Wilson, Rodgers, & Fraser, 2002). In a recent review on women's physical activity behaviour (Landry & Solmon, 2002), self-determination theory was recommended as an effective framework to investigate motivation to exercise. Self-determination theory assumes that people are proactive, with innate tendencies towards improvement, psychological growth, and development (Deci & Ryan, 2000). Self-determination theory proposes that humans have three universal basic psychological needs; autonomy, competence, and relatedness, where each need contributes independently to healthy psychological growth (Veronneau, Koestner, & Abela, 2005). Research guided by self-determination theory focuses on the attainment of these three needs that facilitate the natural process of self-motivation (Ryan & Deci, 2000).

Maximal psychological growth and development are encapsulated by the highest form of self-determined motivation, intrinsic motivation (Deci & Ryan, 1985; Kasser &

Ryan, 1996; Ryan & Deci, 2000). Intrinsic motivation occurs when a task is performed due to the inherent interest in the activity (Ryan & Deci, 2000). With intrinsic motivation, autonomy, competence, and relatedness are maximally fulfilled. Intrinsic motivation is associated with many benefits, such as creativity, industriousness, self-actualization, long-term motivation, and greater intentions to continue exercising (Deci & Ryan, 1985; Ryan & Deci, 2000, Wilson, Rodgers, Fraser, & Murray, 2004). Conversely, extrinsic motivation encapsulates minimal psychological growth, where autonomy, competence, and relatedness are minimal or absent. Extrinsic motivation occurs when an activity is performed because of external regulation, such as coercive pressure (Ryan & Deci, 2000). Extrinsic motivation is typically associated with negative outcomes, such as short-term motivation, a lack of creativity, and a reduction in effort to exercise (Deci & Ryan, 1985; Ryan & Deci, 2000, Wilson, Rodgers, Fraser, & Murray, 2004).

Self-determination theory indicates that it is possible to facilitate extrinsically motivated situations to be more self-determined via the process of internalization (Ryan & Deci, 2000). In internalization, the social context mediates the amount and quality of internalization (Deci, Eghrari, Patrick, & Leone, 1994). Creating a social context where internalizing values is possible increases the likelihood that values will be integrated with the self and increase exercise behavior (Deci, Egrari, Patrick, & Leone, 1994). Autonomy, competence, and relatedness are the ‘fuel’ for an individual’s endeavor to internalize actions and experiences into the self within a given social environment. Since extrinsically motivated behaviours are typically not interesting, the primary reason people perform such actions is because actions are prompted, modeled, or valued by important others who individuals strive to be related or attached to (Ryan & Deci, 2000). Therefore, relatedness, or the need to belong, is important for internalization. Competence is also

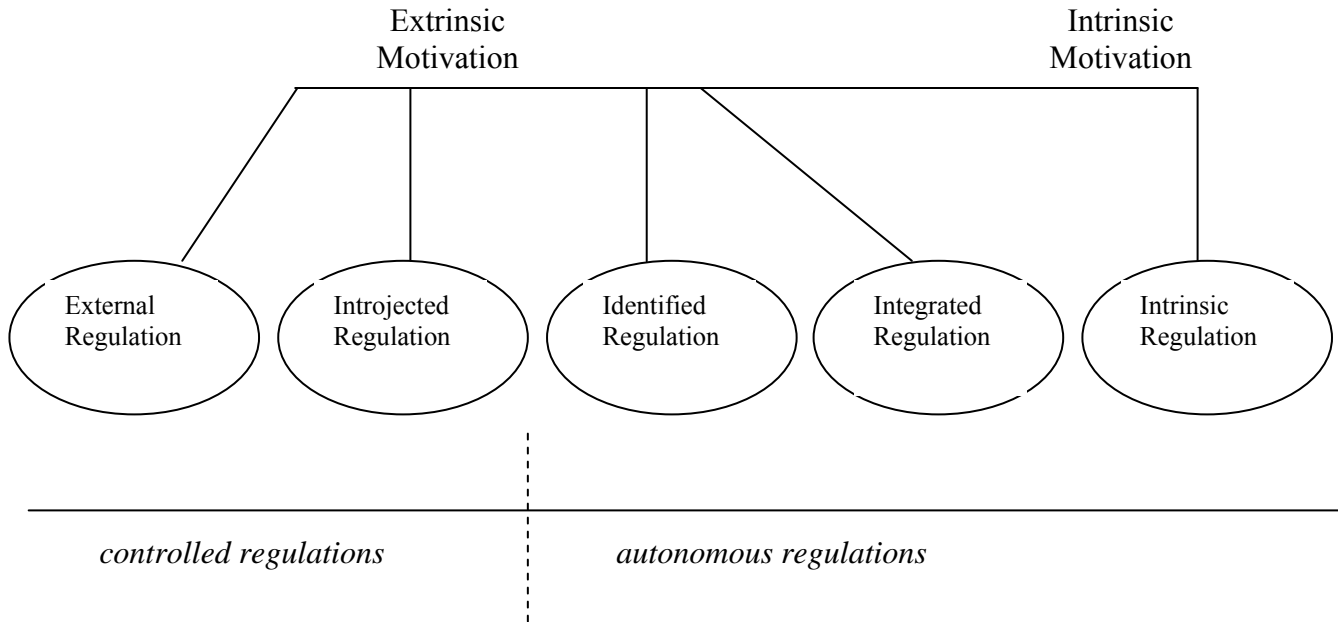
needed to internalize values since feelings of effectiveness are required to keep people seeking, conquering, and actively involved in challenges. Finally, autonomy is needed for a person to internalize an action since a sense a choice, volition, and freedom is needed for individuals to actively transform values as their own (Ryan & Deci, 2000). To be clear, there is a distinction between autonomy and autonomous motives. Autonomy is one of the three needs of self-determination theory, which requires a perceived sense of choice in order for motives to be self-determined (Ryan & Deci, 2000). Autonomous motives, also known as self-determined motives, refer to a class of motivation. Autonomous motivation requires a personal sense of volition and choice in order to be classified as autonomous (Ryan & Deci, 2000). Hence, extrinsically motivated behaviours can be internalized to become autonomous motivations when autonomy, competence, and relatedness are perceived.

Self-determination theory views motivation on a continuum beginning from extrinsic motivation, to intrinsic motivation as the highest, most desirable form. Extrinsic motives are multidimensional and vary in their level of autonomy, competence, relatedness, and personal integration. Self-determination theory breaks extrinsic motivation into four types, where each type of motivation represents a different level of internalization. According to the organismic-integration theory, a sub-theory of self-determination theory, behavioural engagement is motivated according to a person's position along a graded continuum of regulations ranging from being highly self-determined to more coercive in nature. The underlying assumption of organismic-integration theory is that all people are inherently motivated to take an activity that is uninteresting and identify with the value of the activity integrating it into the self. Thus, even though the activity is uninteresting, a person still performs the activity because that

person values some aspect of it (Deci et al., 1994). The further an activity is internalized into the self, the higher one will be on the motivational continuum.

The four gradients of extrinsic motivation are external regulation, introjected regulation, identified regulation, and integrated regulation (see Figure 1.1). In the exercise domain, external regulation is when people's behaviour is controlled by specific external contingencies and involves exercising to satisfy an external demand (Wilson & Rodgers, 2002). For example, in external regulation one may exercise to gain the praise of other people. Introjected regulation refers to feeling coerced to exercise in order to avoid negative feelings or to support conditional self-worth (Wilson & Rodgers, 2002). For example, in introjected regulation one may exercise to avoid feelings of guilt that emerge when one does not exercise. Identified regulation is when a person values the behaviour and has identified and accepted the regulatory process, the activity is done more willingly because it is seen as important (Deci, Vallerand, Pelletier, & Ryan, 1991). For example, in identified regulation one may exercise because they see exercise as valuable to their well-being. In identified regulation, motivation remains extrinsic because the activity is performed as a function of its usefulness; however, the activity is slightly self-determined (or autonomous) since the activity is done willingly rather than for external pressure. The fourth, and most autonomous form of extrinsic regulation is integrated regulation that occurs when identified regulations have been fully assimilated to the self. Integrated regulation involves not only identifying with the importance of the activity, but also integrating those identifications with other aspects of the self (Deci & Ryan, 2000). For example, in integrated regulation one may exercise because exercise has been brought into congruence with one's other values and needs. Lastly, intrinsic motivation is engaged in when one exercises out of sheer enjoyment for the activity.

Figure 1.1. The Self-Determination Motivational Continuum Showing Types of Motivation



(Ryan & Deci, 2000)

Integrated and intrinsic motivation are closely related, however, integrated motivation is done to attain separable outcomes rather than for the inherent enjoyment of the activity (Deci & Ryan, 2000; Ryan & Deci, 2000).

In sum, self-determination theory posits that there are five main types of motivation (external, introjected, identified, integrated, and intrinsic) that are engaged in based upon how a person perceives their social context. According to Ryan and Deci (2000) the more autonomy, competence, and relatedness that a person perceives in their environment, the more autonomous their motivation will be. However, recently it has been suggested that the type of motivation that is engaged in can also be influenced by self-esteem (Ryan & Brown, 2003).

1.2.3 Autonomous motivation and self-esteem

Ryan and Brown (2003) have indicated that “self-esteeming” has substantial obstacles, especially for autonomous motivation. They have specifically suggested that self-esteem may influence one’s motivation to be more introjected than autonomous. Self-esteem is described as one’s evaluative judgement of the self (Rosenberg, 1979) and is based on comparing the self with others. With self-esteem, self-worth is defined by attaining value labels; such as *I am pretty* (Neff, 2003a). However, validating one’s worth by attaining value labels fosters motivation to attain such value labels. The issue with motivation to attain value labels is that motivation becomes prone to be driven by introjection, not well-being. In introjection, one acts to gain, or not lose, self and other regard. In contrast, when autonomously motivated one acts to satisfy intrinsic motivation or to fulfill personal values (Ryan & Brown, 2003). Self-determination theory indicates that optimal health is more likely when self-esteem is not a concern because the worth of the self is not an issue (Ryan & Brown, 2003). Ryan and Brown (2003) explained that a

focus on introjected goals leaves one susceptible to social pressures, unfulfilling goals, and inauthentic living. Therefore, the self-esteeming process interferes with self-regulation on the motivational continuum, and with well-being.

It must be acknowledged, however, that introjection can be a very powerful motivating force (Ryan & Deci, 2000). According to self-determination theory, introjection is a controlled form of motivation that involves conflict, pressure, and fluctuating feelings about the self that can be highly motivating. In introjection, people will go to great lengths to protect or attain positive feelings of self-worth (Ryan & Brown, 2003). Researchers have documented the nature and outcomes of controlled forms of motivation. For example, when Ryan, Koestner, and Deci (1991) instructed participants that valued attributes would be judged by their performance on a task, often they became strongly motivated to prove themselves. However, the outcomes were negative. It was reported that the participants' affect was more negative, their intrinsic motivation was undermined, and their effort was more pressured and unstable. Ryan and Brown (2003) explained that motivation to attain the approval of oneself or others motivates one in a controlling manner. Motivation becomes controlling because fluctuations in self-esteem supply the basis of control. Therefore, self-determination criticizes the use of self-esteem due to the self-comparisons it encourages.

Ryan and Brown (2003) argued that both high self-esteem and low self-esteem are equally damaging to autonomous motivation. High self-esteem motivates people to act to reassure their worth, causing contingent character where people see their worth as dependent upon reaching certain standards. Correspondingly, people with low self-esteem lack one or more of the basic needs (autonomy, competence, or relatedness), which results in feelings of low self-worth, love, authenticity, or effectiveness. As a

result, both low and high self-esteem individuals are overly attached to achievements, possessions, and relationships. Ryan and Brown (2003) put forth a paradox of self-esteem: “If you need it, you don’t have it, and if you have it, you don’t need it” (p. 74).

Regardless of the extrinsic motivational nature of self-esteem, self-esteem has been widely promoted in academia and popular press (Levy & Ebbeck, 2005; Rosenberg, 1979; Steinem, 1992; Wilson & Rodgers, 2002). In the exercise domain, self-esteem has been endorsed where numerous studies have attempted to encourage or alter self-esteem (e.g., Levy & Ebbeck, 2005; Smith, 1999; Sonstroem, Harlow, & Josephs, 1994; Sonstroem, Harlow, & Salisbury, 1993; Wilson & Rodgers, 2002). The Exercise and Self-Esteem Model (EXSEM; Sonstroem & Morgan, 1989) in particular has been a leading model in the exercise domain that promotes the facilitation and maintenance of self-esteem (Fox, 1997). The EXSEM proposes that physical self-efficacy influences physical competence and physical acceptance, which together increase global self-esteem. Therefore, engaging in exercise is hypothesized to raise self-esteem (Fox, 1997). However, as research previously discussed demonstrates, a focus on self-esteem is likely to facilitate short-term motivation rather than long-term motivation. Therefore, although self-esteem increases feelings of positivity towards the self, it damages the potential for autonomous motivation. Thus, despite the widespread promotion of self-esteem, the self-determination literature describes that there are problematic dynamics with the self-esteeming process. Further, as described below, other bodies of literature present criticisms of self-esteem that strengthen the evidence that both high and low self-esteem are potentially problematic.

Beyond the extrinsic motivational tendencies associated with self-esteem, research has found self-esteem to be related to outcomes such as narcissism, self-centeredness,

self-absorption, and a lack of concern for others (Baumeister, Bushman, & Campbell, 2000; Feather, 1994; Neff, 2003a; Neff, 2003b). Thus, self-esteem may not be the most beneficial conceptualization of a healthy attitude towards oneself due to the process of self-criticism and self-comparison that self-esteem encourages (Baumeister, Smart, & Boden, 1996; Ellis & London, 1993; Hewitt, 1998; Patrick, Neighbors, & Knee, 2004; Swann, 1996). The process of self-esteem involves evaluation of self-worth in relation to the performance of others (Aspinwall & Taylor, 1993; Beach & Tesser, 1995; Buunk, 1998; Deci & Ryan, 1995; Neff, 2003a; Suls & Wills, 1991). This search for self-worth results in posing questions to the self such as *How much do others approve of me?* solidifying self-worth as dependent on performance evaluations (Neff, 2003a). Neff (2003b) has found that self-judgement results in tendencies toward narcissism and self-centeredness, which may stem from attempts to maintain high self-esteem. Narcissism and self-centeredness may arise since self-esteem involves setting oneself up in opposition of others (Neff, 2003a). Self-worth that is contingent on how the self is different from others is also problematic since one must be *above* average to feel good about oneself. Neff (2004) explained that this is an issue since it is impossible for more than a few to be *above average*. Further, attempts to maintain self-esteem may lead to self-absorption and a lack of concern for others (Baumeister, Bushman, & Campbell, 2000). For example, high self-esteem has been associated with putting others down to feel better about oneself (Feather, 1994). Therefore, several researchers have criticized the use of self-esteem and suggest that the self-esteeming process may be inhibiting well-being rather than encouraging it (Ryan & Brown, 2003).

1.2.4 Self-compassion

Neff (2003a) suggested self-compassion as an alternative to self-esteem. While the concept of self-compassion is a relatively new concept for Western philosophy, the idea of self-compassion has existed in Buddhist philosophy for centuries (Neff, 2003a). Self-compassion is similar to having compassion for others; however, with self-compassion feelings of kindness are extended to oneself. Neff (2004) indicated that people often report being harder on themselves than on others for fear of becoming self-indulgent. However, ultimately, self-criticism results in negative feelings and is a poor motivational force (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982). When one is self-compassionate one is accepting of the self, which provides emotional safety to clearly identify areas for change and growth. Motivation to develop areas that are identified as not actualized stems from a desire to create health and well-being for the self (Neff, 2004). Ultimate health and well-being are achieved by people feeling kindness and compassion for themselves because they are human beings, not because they have some particular trait such as being physically fit (Neff, 2004). Due to the unconditional feelings of self-worth that self-compassion breeds, self-compassion is suggested to be highly stable because one is always a human being worthy of compassion. Theoretically, self-compassion should be easier to raise than self-esteem because self-compassion does not require people to adopt an unrealistic view of themselves (Neff, 2004). Neff (2003a) identified three major components of self-compassion: self-kindness, common humanity, and mindfulness.

Self-kindness is defined as extending kindness and understanding to oneself rather than harsh judgement and self-criticism (Neff, 2004). Self-kindness entails being touched and open to one's own suffering, where alleviating one's suffering involves healing

oneself with kindness. It has been questioned whether extending kindness to oneself will lead to passivity; however, if self-compassion is genuine, passivity is unlikely (Neff, 2003a). Self-compassion includes being aware of one's weaknesses, where one's flaws are noticed and challenged. A person who is self-compassionate desires well-being for premium functioning and health, and therefore, will be active in their endeavors to increase well-being (Neff, 2003a). Brown (1999) explained that the self-kindness component of self-compassion lends itself to provide emotional safety, which promotes individuals to see themselves clearly without fear of negative evaluation. A positive mental space stimulates accurate self-reflection, thought, feeling, and behaviour. Further, self-compassion has an intrinsic quality that predisposes motivation for growth and change (Neff, 2003a).

The second component of self-compassion, common humanity, involves seeing one's experiences as part of the larger human experience rather than seeing them as separate and isolating. Common humanity entails less judgement of the self, where one's limitations are acknowledged. Limitations are viewed as universal to all of humanity. Questions have been raised as to whether self-compassion may encourage individuals to be self-centered because there is less judgment of the self. However, self-compassion involves extending feelings of kindness towards the self and others because all people share a common humanity. A lack of judging the self fosters a lack of judging others since comparisons between the self and others are not needed to develop a healthy self-concept. Self-compassion is not extended because one is superior, but because one is human and recognizes one's interconnectedness and equality with others, thus deterring self-centeredness (Neff, 2003a). Self-compassion further decreases one's inclination

towards self-centeredness since compassion for the self entails giving up harmful behaviours, such as self-centeredness, so that well-being can be furthered.

The final component of self-compassion, mindfulness, has long been believed to promote well-being due to the quality of attention and awareness mindfulness promotes (Brown & Ryan, 2003). Mindfulness is described by Neff (2003a) as the ability to maintain a balanced state of moment-to-moment awareness where feelings are not over-identified with, nor avoided. As a result of mindfulness, self-understanding is enhanced. However, self-compassion has been criticized as increasing feelings of self-pity, since mindfulness encourages people to think about their pain and suffering in a nurturing manner that may exaggerate feelings of distress and separation. However, being mindful of one's interconnectedness with others results in a balanced awareness of the broader human context where one does not avoid or repress one's suffering, but instead, feels compassion for one's experience (Neff, 2003a). Thus, self-compassion encourages a mindful awareness that many other people face similar problems, thereby reducing the likelihood of feeling pity for the self.

Therefore, self-compassion entails being kind towards oneself instead of being harshly critical, acknowledging that other's suffering may be similar to our own, and rather than dwelling on one's suffering, not over-identifying with one's feelings. The three components of self-compassion; self-kindness, common humanity, and mindfulness are distinct concepts from one another (Neff, 2003a). In addition, each component strengthens and compliments one another. In sum, the three components of self-compassion; self-kindness, common humanity, and mindfulness all work together to foster a genuine desire for well-being (Neff, 2003a).

1.2.5 Self-compassion and autonomous motivation

A paradox is occurring in the exercise domain, as researchers and practitioners are trying to raise self-esteem, self-esteem has been found to inhibit autonomous motivation; ultimately, damaging rather than developing motivation and well-being (Ryan & Brown, 2003). Therefore, it appears that raising self-esteem results in unique problems with the potential to disrupt well-being rather than enhancing it. Raising self-esteem may in fact limit one's well-being due to self-esteem's extrinsic motivational nature since people can not live authentically if their actions are motivated by coercive pressure (Ryan & Brown, 2003). Perhaps encouraging self-compassion in the exercise domain may facilitate a more autonomous motivation to exercise compared to self-esteem. There are similarities between the self-compassion literature and the self-determination literature that suggests there is reason to suspect that individuals who are self-compassionate will be more prone to autonomous motivation in the exercise domain; however, this specific relationship has not been examined to date.

There are five main links in the literature to support the contention that feelings of self-compassion towards the self (or a lack of self-compassion) may impact the motivational process. The first two links between self-compassion and self-determination are common critiques of both literatures which suggest commonalities, whereas the last three links speak to the direct relationship of these variables.

First, both self-determination and self-compassion give rise to proactive behaviours aimed at promoting or enhancing well-being. Self-compassion has been found to be related to positive psychological functioning and psychological health (Neff, 2003a). A positive association has been found between self-compassion and connectedness, emotional intelligence, self-determination, and subjective well-being

(Neff, 2003a). Negative associations have been reported between self-compassion and self-criticism, depression, anxiety, rumination, and thought suppression (Neff, 2003a). Neff (2003a) explained that self-compassion is linked to well-being because of the supportive attitude that self-compassion fosters. Self-determination is also associated with outcomes representative of well-being such as creativity, enjoyment, happiness, long-term motivation, reduced stress, and industriousness (Deci & Ryan, 2000). Further, self-determination is based on the assumption that it is human nature to strive for well-being (Ryan & Brown, 2003).

Self-compassion and self-determination are also similar in that they both acknowledge the importance of others in achieving well-being. Neff describes that self-compassion includes common humanity, which is defined by Neff (2003a) as recognizing one's interconnectedness and equality to others, to be a component of achieving well-being. Similarly, self-determination includes relatedness, or a feeling of belonging and meaningful connectedness to others, that is required to achieve well-being (Ryan & Deci, 2000). In addition to self-compassion and self-determination both striving for well-being, they both suggest that people achieve well-being in a similar manner, by in part being related to others, through common humanity or relatedness. In sum, both self-compassion and self-determination facilitate the development of a genuine authentic self to obtain well-being, both advocate for unconditional self-worth, and both suggest that others are an important part of achieving well-being. As a result, both concepts indicate that when unconditional self-worth is achieved, one's actions will be motivated by an intrinsic desire to achieve well-being (Deci & Ryan, 2000; Neff, 2003a).

Second, in both the self-compassion and self-determination literatures, self-esteem is criticized because of its emphasis on comparison. As discussed earlier, self-

determination theory indicates that a focus on self-esteem results in more proneness to introjected motivation (Ryan & Brown, 2003). Introjected motivation is likely since the self-esteeming process requires comparing oneself to others, which results in self-worth being defined, defended, and secured by attaining value labels. The self-determination literature has suggested that both high and low self-esteem are equally as dangerous to motivation because autonomy, competence, and relatedness are thwarted in self-esteem, which results in the experience of self-worth as contingent (Ryan & Brown, 2003). However, it is acknowledged that when adequate autonomy, competence, and relatedness are experienced self-esteem will be experienced since self-esteem and autonomous motivation contribute to positive affect (Ryan & Deci, 2000).

Similarly, proponents of self-compassion criticize self-esteem because of the outward comparisons required to attain self-esteem (Neff, 2003b). As discussed earlier, Neff (2004) explained that self-esteem may result in self-centeredness, insulting others to feel better about oneself, self-absorption, or a lack of concern for others. Further, Neff (2003b) found that self-esteem, but not self-compassion, was related to narcissism. This may be because with self-esteem people must perceive an aspect of themselves as superior to others to feel good about themselves (Neff, 2004).

However, despite the differences between self-esteem and self-compassion, they are expected to be related. Neff (2003b) hypothesized that self-compassion and self-esteem would be moderately related since self-compassion and self-esteem both involve feelings of positivity towards the self. Neff (2003b) found that individuals who were more self-compassionate were more likely to have high self-esteem than individuals that lacked self-esteem. Yet, although self-esteem and self-compassion were found to be related, Neff (2003b) showed that self-compassion and self-esteem were conceptually

distinct. Self-esteem may be different from self-compassion since positive affect experienced from self-esteem stems from downward comparisons with others, resulting in self-esteem being associated with self-aggrandizement. Hence, although self-esteem, autonomous motivation, and self-compassion are likely to be related, self-esteem is not associated with greater growth, integrity, or well-being to the same extent as self-determination and self-compassion (Neff, 2004; Ryan & Brown, 2003). Instead, self-esteem is associated with vulnerability and self-compromising acts due to the comparisons it encourages (Neff, 2003b; Ryan & Brown, 2003). Therefore, optimal well-being from the self-determination and self-compassion perspectives would lead us beyond self-esteem.

The third way that self-determination and self-compassion may be linked, is that in response to the inadequacies of self-esteem, both discuss similar alternative conceptualizations of self. The self-determination literature distinguishes between true self-esteem, where success and failure do not implicate self-worth, and contingent self-esteem, where self-worth is dependent upon reaching certain standards (Ryan & Brown, 2003). True self-esteem more aligned with autonomous motivation (e.g., Deci & Ryan, 1995). True self-esteem stems from autonomous self-determined actions that reflect the authentic self. True self-esteem is characterized by viewing the self inherently worthy of esteem and love. Deci and Ryan (1995) suggested that true self-esteem fosters more proneness to autonomous motivation because it involves reflecting the authentic core self, and viewing the self as inherently worthy. Comparably, self-compassion was introduced by Neff (2003a) as an alternative to self-esteem that focuses on the emotional stance one takes towards themselves involving loving kindness (Neff, 2003b). True self-esteem and self-compassion literatures are similar in that both argue self-esteem might not be the best

conceptualization of the self; both self-compassion and autonomous motivation develop when actions reflect the core self; and both self-compassion and self-determination reflect an unconditional worth and love where successes and failures do not implicate self-worth. Further, Neff (2003b) has explored this relationship and found that there was a positive relationship among self-compassion and true self-esteem. Therefore, it seems reasonable to suggest that self-compassion would foster autonomous motivation in a similar fashion to true self-esteem.

However, despite the relationship between true self-esteem and self-compassion, these concepts have been found to be conceptually distinct from one another (Neff, 2003b). When examining the correlation between self-compassion and true self-esteem, the relationship was not so strong ($r = .43$) as to suggest that true self-esteem and self-compassion are the same construct. True self-esteem may be distinct from self-compassion since it has been found to be associated with narcissism, whereas self-compassion has not (Neff, 2003b). This difference may be due to how the self is viewed in self-compassion and self-determination. The conceptualization of the self in self-compassion is borrowed from Buddhist philosophy, where healthy self-attitudes stem from “de-emphasizing the separate self” (Neff, 2003a, p.96). In contrast, Deci and Ryan’s (1995) conceptualization of the self in self-determination emphasizes autonomy. Autonomy, however, should not be confused with independence. Autonomy refers to performing an activity for one’s own reasons, however, the person remains connected to others. On the other hand, independence refers to feeling effective on one’s own. As Neff, Hsieh, and Dejitterat (2005) explained, self-compassion makes a novel contribution to the literature by focusing on feelings of shared humanity rather than isolation, which may distinguish self-compassion from true self-esteem. Despite the differences in how

the self is defined in self-compassion and self-determination, these concepts may be related as they both recognize the self as mental capacity that allows people to think consciously about themselves (Leary & Tangney, 2003) and change negative feelings into feelings of positivity towards the self.

The fourth way that self-compassion and self-determination may be linked to one another is that both self-determination and self-compassion introduce the Buddhist idea of mindfulness as a method to keep one's experiences in mindful awareness of the present. Ryan and Brown (2003) suggested that mindfulness may have something to offer self-determination. Being mindful involves open non-judgmental awareness of what is occurring in the present (Ryan & Brown, 2003). Mindfulness was suggested as a useful concept in self-determination since the more informed and full one's awareness is, the more likely one's behaviour will be autonomous and full of vital and authentic living. Ryan and Brown (2003) investigated mindfulness with several outcomes and found that mindfulness was related to autonomy, less introjection, higher self-esteem, higher well-being, and greater satisfaction with one's actions. With self-compassion, mindfulness is also used to balance one's thoughts and prevent over-identification with one's experiences. Mindfulness is regarded as a very influential concept in self-compassion since a certain amount of mindfulness is required to allow feelings of self-kindness and common humanity to arise (Neff, 2003a). Therefore, both self-determination and self-compassion highlight the importance of mindfulness as a basis for well-being, which furthermore suggests that self-compassion may foster autonomous motivation.

The fifth link between self-determination and self-compassion is demonstrated in research that has been done in an academic setting showing a relationship between self-determination and self-compassion. Neff, Hsieh, and Dejitterat (2005) explored the

relationship between self-compassion and academic achievement goals. The researchers predicted that variations in self-compassion levels would be reflected in the types of learning goals, and the type of motivation engaged in the classroom. Undergraduate students completed a survey including measures of self-compassion, achievement goals, fear of failure, perceived competence, motivation, anxiety, and self-reported grade point average. Their results indicated that self-compassion was related to adaptive academic motivational patterns, which suggests that self-compassion may moderate motivational regulations in the academic setting. Further, self-compassion was also directly linked to intrinsic motivation itself. Neff et al. (2005) explained that self-compassion may make an independent contribution to increased intrinsic motivation in the academic setting since past research has found self-compassionate individuals to have greater autonomy and self-determination in their lives (Deci, Vallerand, Pelletier, & Ryan, 1991; Neff, 2003a). In a subsequent study, Neff et al. (2005) explored the association between self-compassion, intrinsic motivation, and perceived competence after an academic failure. Undergraduate students that perceived an academic failure after receiving the results of their midterm exam completed a survey including grade satisfaction, achievement goals, motivation, perceived competence, and coping with failure. Even after receiving an unsatisfactory grade, the relationship between self-compassion and intrinsic motivation was salient, which indicates that even after disappointment, students who were self-compassionate were interested and involved in the course topic. This may be because self-compassionate individuals possess an element of autonomous motivation, and hence remain interested in the task because they value and/or enjoy the task (Neff et al., 2005). In sum, the results of Neff et al.'s (2005) study suggest that self-compassion is associated with intrinsic motivation in an academic setting.

In summary, there are five main links between self-compassion and self-determination that support the hypothesis that self-compassion may foster autonomous motivation. Self-compassion and self-determination both: (a) strive for well-being, (b) criticize the self-comparison process of self-esteem, (c) suggest similar alternative conceptualizations of the self, (d) contain elements of mindfulness, and (e) are found to be related to one another in an academic setting. The intent of the present study was to examine how self-compassion would be related to self-determined motives to exercise and to outcomes in the exercise domain, and whether self-compassion would explain unique variance beyond self-esteem on those variables. Self-compassion was expected, based on past literature and empirical evidence to be related to, and to predict unique variance over and above self-esteem on the various outcomes of well-being. The following section will describe the different outcomes that self-compassion was expected to be related to, followed by an explanation as to why self-compassion should explain more variance than self-esteem in the selected outcomes.

1.2.6 Outcomes

In the present investigation, self-compassion was expected to be related to four main outcomes, based on the hypotheses that self-compassion fosters well-being and autonomous types of motivation. Self-compassion was expected to be positively related to identified, integrated, and intrinsic motivation to exercise and to task goals; and negatively related to external and introjected motivation to exercise, and to ego goals, social physique anxiety, and obligatory exercise behaviour. Task goals, social physique anxiety, and obligatory exercise were chosen as additional outcomes that self-compassion may be related to in the exercise domain because they represent a broad range of indicators of well-being (or lack of well-being). These outcomes showcase a broad range

of indicators of well-being in that task and ego goals reflect goal orientation, social physique anxiety reflects self-evaluation, and obligatory exercise reflects actual exercise behaviour; where all three outcomes together reflect a diverse array of indicators of well-being relevant to young adult women that exercise. In addition, there are measures of each outcomes that have been validated with a female population (Ackard, Brehm, & Steffen, 2002; Bane & McAuley, 1998; Steffen & Brehm, 1999; Weiss & Ferrer-Caja, 2002; Wilson, Rodgers, Fraser & Murray, 2004), and each has been shown to be related to well-being (or a lack of well-being; Ackard, Brehm, & Steffen, 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000).

Task goals were expected to be positively related to self-compassion. This relationship was expected for two reasons. First, since task-based goals were related to intrinsic motivation in an academic setting, this relation was expected to be salient in the exercise domain (Neff, Hsieh, & Dejitterat, 2005). Second, task-based goals have an intrinsic motivational nature. Task goals have been found to result in motivation that is propelled by an intrinsic desire to develop new skills, master tasks, and view mistakes as part of learning (Neff et al., 2005; Nicholls, 1984). In contrast, ego-based goals are expected to be negatively related to self-compassion. Ego goals are reached to demonstrate competence or to avoid failure or feelings of incompetence (Nicholls, 1984). Therefore, task-goals are more closely associated with intrinsic motivation and a self-compassionate nature. Hence, it was expected that the more self-compassionate one is the more one's goals will be task oriented and the less they will be ego oriented.

Social physique anxiety was also expected to be related to self-compassion, however, in the form of a negative relationship. Social physique anxiety involves the need to protect the presentation of the physical self. Anxiety is experienced when physique

evaluation is present (Lantz, Hardy, & Ainsworth, 1997; Leary, 1992). Women who experience social physique anxiety fear presenting a negative social image (Brewer & Raalte, 2004). In contrast, self-compassion does not foster congruence with ideal standards; thereby, evaluations are not personalized. As a result, the self is not valued by the standards one reaches; the self is valued because one is human and worthy of kindness (Neff et al., 2005). Further, Lewis and Neighbors (2005) found that individuals who were higher in autonomous motivation reported engaging in fewer self-presentation strategies, whereas individuals lower in autonomous motivation engaged in self-presentation more often. So, if self-compassion facilitates autonomous motivation as research suggests, self-compassion should be negatively related to self-presentational concerns such as social physique anxiety. Therefore, self-compassion was expected to be negatively related to social physique anxiety, since self-compassion does not encourage comparisons that would invite individuals to feel their worth is contingent on beauty standards.

Lastly, it was expected that obligatory exercise would be negatively related to self-compassion. Obligatory exercise is described as the tendency to exercise in ways that can be harmful to one's physical and psychological well-being (Steffen & Brehm, 1999). The line between exercising for health and exercising to excess has not yet been determined; therefore, obligatory exercise can be used to describe any person who feels obligated or compelled to exercise despite potential risks (Draeger, Yates, & Crowell, 2005). Obligatory exercise has a multifaceted nature that involves excessive exercise frequency and intensity, preoccupied thoughts of exercise, and emotional responses to exercise such as guilt (Steffen & Brehm, 1999). Obligatory exercise for some can become pathological, leading to eating-disordered traits (Ackard, Brehm, & Steffen, 2002). Tendencies that are characteristic of obligatory exercisers are exaggerated

attitudes and beliefs about exercise, the presentation of the body, and unattainable body images (Draeger, Yates, & Crowell, 2005). It is likely that self-compassion would be negatively related to obligatory exercise behaviour since self-kindness, common humanity, and mindfulness protect against behaviours that jeopardize well-being. Self-compassion involves an emotionally positive attitude that protects against behaviours that are harmful. Self-compassion involves viewing oneself clearly and openly, where behaviour that encourages optimal functioning, health, and well-being are sought (Neff, 2003b). It was expected that obligatory exercise would be negatively related to self-compassion since obligatory exercise encourages exercise behaviour that results in harm and diminishes well-being.

In addition to self-compassion being related to the specified outcomes, self-compassion was also expected to predict unique variance over and above self-esteem on the specified outcomes. Self-compassion was expected to predict unique variance beyond self-esteem since it ceases the self-evaluation process. The main difference between self-compassion and self-esteem is that the positive and negative self-evaluation process is completely removed in self-compassion (Neff et al., 2005). Self-evaluation has been found to be linked to poorer well-being (Baumeister, Smart, & Boden, 1996; Ellis & London, 1993; Hewitt, 1998; Patrick, Neighbors, & Knee; Swann, 1996), therefore, perhaps the self-evaluation process limits the potential for well-being. In addition, self-compassion has been found to be related to greater well-being in an academic setting, which suggests that self-compassion may predict unique variance beyond self-esteem in the exercise domain. Further, the alternatives of the specified outcomes that indicate limited well-being (extrinsic motivation, ego goals, social physique anxiety, and obligatory exercise) all require an element of self-evaluation; however, their counterparts

(intrinsic motivation, task goals, minimal social physique anxiety, and minimal obligatory exercise) function the best without self-evaluation. Hence, it seems that less self-evaluation may be more beneficial to well-being. Therefore, if self-compassion should be considered as an alternative to self-esteem, or as value added beyond self-esteem, self-compassion should predict unique variance beyond self-esteem in all specified outcomes.

1.2.7 Contributions to the literature

This research was expected to make three main contributions to the literature. First, this study has an opportunity to advance the concept of self-compassion. The self-compassion literature indicates that little research has explored related outcomes of self-compassion, thus the four outcomes specified in this study will expand the breadth of research on self-compassion (Neff, 2004). Further, self-compassion may be recognized as a useful construct in the exercise domain. This study may provide correlational evidence that self-compassion contributes to well-being beyond self-esteem in the exercise domain, thereby extending the use of self-compassion. Second, this study has an opportunity to advance the use of self-determination theory by linking new concepts, such as self-compassion, to further its development. The final contribution to the literature is to further the knowledge of women's motivation to exercise. In Landry and Solomon's (2002) review on women's exercise participation, it was declared that more research is needed to better understand women's experiences with physical activity; therefore, this study aims to inquire about young adult women's exercise motivation.

1.3 STATEMENT OF PURPOSE AND HYPOTHESES

The purpose of this study was to examine how self-compassion would be related to self-determined motives to exercise and to outcomes in the exercise domain, and whether self-compassion would explain unique variance beyond self-esteem on those

variables. There were two main hypotheses. First, it was hypothesized that self-compassion would be related to motivation, as well as to various outcomes in the exercise domain; namely task and ego goals, social physique anxiety, and obligatory exercise. Secondly, it was hypothesized that self-compassion should predict unique variance over and above self-esteem on motives to exercise and on the outcomes of goal orientation, social physique anxiety, and obligatory exercise behaviour.

1.3.1 Hypotheses

1.3.2.1 Relationships involving self-compassion

- i) Self-compassion would be positively related to identified, integrated, and intrinsic motivation to exercise.
- ii) Self-compassion would be negatively related to external and introjected motivation to exercise.
- iii) Self-compassion would be positively related to task goals.
- iv) Self-compassion would be negatively related to ego goals.
- v) Self-compassion would be negatively related to social physique anxiety.
- vi) Self-compassion would be negatively related to obligatory exercise.

1.3.2.2 Unique variance of self-compassion

- vii) Self-compassion would predict unique variance over and above self-esteem on identified, integrated, and intrinsic motivation to exercise, and on task goals. Self-compassion would predict unique variance beyond self-esteem on external and introjected motivation to exercise, ego goals, social physique anxiety, and obligatory exercise. Self-esteem is expected to be a significant predictor of the outcomes of exercise because self-

esteem involves positive ideas of the self; however, self-compassion is expected to contribute unique variance beyond self-esteem on all variables.

CHAPTER 2

2.1 METHOD

2.1.1 Participants

For this study, participants included 252 young adult women who exercise ranging in age from 17 to 43 years. This age range follows the Canadian Fitness and Lifestyle Institute's (1991a; 1991b) definition of young adult, which includes ages ranging from 17 to a maximum of 44 years of age. Participants were recruited from the Fitness Center and Kinesiology and Psychology undergraduate classrooms at the University of Saskatchewan. The average age of participants was 21.9 years of age. Participants identified themselves as being from several sociocultural backgrounds, some belonging to more than one group. Two-hundred forty-three participants (96.4%) identified themselves as White, 6 (2.4%) as Aboriginal, 5 (2%) identified themselves as Chinese, 2 (.8%) identified themselves as Filipino, and 2 (.8%) participants identified themselves as 'other'.

In order to take part in this study, participants were required to be regular exercisers. Regular exercise behaviour was required so that participants could knowledgeably answer questions about their exercise. Regular exercise for adults was defined as exercising on average for 30 minutes at least three times per week for the past three weeks (Public Health Agency of Canada, 2003). In this study, participants' self-reported exercise was an average 60.1 minutes, 4.29 days per week, for at least 1.01 years (see Table 2.1 for information on categories of exercise frequency).

Table 2.1

Individual Exercise Frequency Scores

Item	Duration	Frequency
<i>When exercising, on average how long does each exercise session last?</i>		
	30 minutes	59
	60 minutes	124
	90 minutes	55
	120 minutes or more	14
<i>On average, how many days per week do you exercise?</i>		
	3 days	77
	4 days	62
	5 days	78
	6 or more days	35
<i>How long have you been exercising at least 3 days per week, for at least 30 minutes per session?</i>		
	3 weeks	33
	6 weeks	52
	1 year	47
	2 years or more	120

Note. These questions are the ‘Exercise Behaviour’ portion of the Demographic Questionnaire (see Appendix A) used to ensure the participants met the exercise requirements of this study.

2.1.2 Measures

2.1.2.1 Demographics

General demographic information (see Appendix A) including age, weight, height, and sociocultural information was collected. Additional information specifying current exercise behaviour was also included in the questionnaire package to provide descriptive information on the participants.

2.1.2.2 Self-determination

The Behavioral Regulations in Exercise Questionnaire (BREQ; Mullen, Markland, & Ingledew, 1997; see Appendix B) is a 15-item measure that inquires about self-determined motives to exercise consistent with self-determination theory. The BREQ examines motivation to exercise along a graded self-determination continuum.

Following the stem, “*Why do you exercise?*” participants respond to questions on a 5-point Likert scale ranging from 0 (not true for me) to 4 (very true for me; Mullen, Markland, & Ingledew, 1997). The BREQ has four sub-scales including external (e.g., “*I exercise because other people say I should*”), introjected (e.g., “*I feel guilty when I don’t exercise*”), identified (e.g., “*I value the benefits of exercise*”), and intrinsic (e.g., “*I exercise because it’s fun*”). Each subscale has four items except for introjection, which has three. The BREQ was found to be a reliable measure with attendees of a local sports centre as participants (Mullen et al., 1997). Test-retest scores over one week ranged from .76 to .90 for motivational regulations. Acceptable internal consistency among the sub-scales has also been found (extrinsic $r = .78$, introjected $r = .76$, identified $r = .78$, intrinsic $r = .90$). Evidence of convergent and discriminant validity was found in several studies for the BREQ by comparing various other measures (Mullen et al., 1997; Vallerand, & Fortier, 1998; Wilson, Rodgers, Blanchard, & Gesell, 2003; Wilson,

Rodgers, & Fraser, 2002). For example, convergent validity was found with identified ($r = .70$) and intrinsic ($r = .90$) regulations and Perceived Behavioural Control (Wilson, Rodgers, & Fraser, 2002).

Four additional items were added to the BREQ to assess integrated motivational regulations, based on recommendations by Wilson, Rodgers, Loitz, and Scime (2006). In the past, integrated regulations were not measured by the BREQ since integrated motivation was difficult to discern from identified motivation, and therefore discarded from the original questionnaire. However, Wilson et al. (2006) developed integrated items that allow for the full range of self-determination to be measured. Confirmatory factor analysis has supported the inclusion of integrated regulation with the BREQ. Further, regression analyses have provided evidence of greater need satisfaction with integrated regulations ($R^2 = .06$ to $.31$) and that integration contributes to the prediction of exercise behaviour ($R^2 = .25$) and physical self-worth ($R^2 = .32$). Hence, the additional four items to the BREQ have been found to be used in conjunction with the BREQ without compromising the validity and support for the original model.

2.1.2.3 Self-esteem

The Rosenberg Self-Esteem Scale (Rosenberg, 1965; see Appendix C) is a 10-item measure of self-esteem. Responses range from 0 (strongly agree) to 3 (strongly disagree). An example of an item on the scale is: "*I take a positive view of myself*". Higher scores indicate higher self-esteem. Internal consistency for the Rosenberg Self-Esteem Scale has been reported high at $r = .96$ (Strelan, Mehaffey, & Tiggemann, 2003). The Rosenberg self-esteem scale is a widely used measure, with good reliability and validity over time (Furnham, Badmin, & Sneade, 2002).

2.1.2.4 Self-compassion

The Self-Compassion Scale (SCS; Neff, 2003b; see Appendix D) is a 26-item, 5-point scale with items ranging from 1 (almost never) to 5 (almost always; Neff, 2003b) that measures one's level of self-compassion. There are six subscales. The six subscales were designed to measure the three main components of self-compassion on separate subscales (self-kindness versus self-judgement, common humanity versus isolation, and mindfulness versus over-identification), that would represent the participants overall level of self-compassion. The subscales include a 5-item Self-Kindness scale (e.g., “*I’m tolerant of my own flaws and inadequacies*”), a 5-item Self-Judgement scale (e.g., “*When I see aspects of myself that I don’t like, I get down on myself*”), a 4-item Common Humanity scale (e.g., “*I try to see my failings as part of the human condition*”), a 4-item Isolation scale (e.g., “*When I am feeling down I tend to feel like most other people are probably happier than I am*”), a 4-item Mindfulness scale (e.g., “*When something upsets me I try to keep my emotions in balance*”), and a 4-item Over-Identification scale (e.g., “*When something upsets me I get carried away with my feelings*”). After reverse scoring selected items, mean scores on the six subscales are summed to get a total self-compassion score. A high total self-compassion score means a greater level of self-compassion. With an undergraduate university sample good test-retest reliability was found for the SCS over a three week period (correlation’s ranged between $r = .80$ and $r = .93$ for the six sub-scales; Neff, 2003b). The internal consistency for the 26 SCS items was found to be $r = .92$ (Neff, 2003b). Evidence of construct validity has been found to be acceptable. The SCS has been found to be negatively correlated with self-criticism ($r = -.65, p < .01$). Further, convergent validity was established by measuring similar constructs such as the Social Connectedness scale ($r = .41, p < .01$; Neff, 2003b).

2.1.2.5 Goal orientation

The Goal Orientations in Exercise Measure (GOEM; Petherick & Markland, 2005; see Appendix E) assesses individual differences in the ways that people construe success. The GOEM has 10-items, where participants respond to how much they agree with the statements provided. Specifically, the GOEM measures an individual's proneness towards task orientations (e.g., "*I exercise to the best of my ability*") or ego orientations (e.g., "*I know that I am more capable than other exercisers*"). Responses are on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores on the task and ego subscales reflect a higher tendency to engage in task or ego goal orientation. Evidence of internal consistency has been demonstrated with the five task-items ($r = .78$) and the five ego-items ($r = .88$; Petherick & Markland, 2005). Further, evidence of construct validity was shown with task orientations being positively related to intrinsic, identified, and introjected motivational regulations, and to perceived ability. Further, ego orientations were positively related to introjected and external motivational regulations, and to perceived ability and perceived threat. Discriminant validity was shown with task orientation being negatively related to external and amotivation regulations, and to social physique anxiety (Petherick & Markland, 2005).

2.1.2.6 Social physique anxiety

The Social Physique Anxiety Scale (SPAS; Hart, Leary, & Rejeski, 1989; see Appendix F) is a 12-item measure. The SPAS measures the degree of anxiety one experiences when one perceives that their physique is being evaluated or observed (Hart et al., 1989). Respondents are asked to indicate the degree to which statements are true for them (e.g., "*I am comfortable with the appearance of my physique/figure*"). Responses range on a 5-point Likert scale from 1 (not at all) to 5 (extremely) for how each item

represents the individual. A sum of the items results in a total SPAS score ranging from 12 to 60, where the higher the score the higher the social physique anxiety. Adequate test-retest reliability ($r = .82$) has been found with adult female populations over an eight-week period for the SPAS (Hart et al., 1989). Further, the SPAS has demonstrated evidence of internal consistency, ranging from $r = .87$ to $r = .93$ (Bartlewski, Van Raalte, & Brewer, 1996; Crawford & Eklund, 1994; Eklund & Crawford, 1994; Martin Rejeski, Leary, McAuley, & Bane, 1997; Petrie, Diehl, Rogers, & Johnson, 1996) with a variety of female populations. Construct validity has been demonstrated with a female undergraduate sample where fear of negative evaluation ($r = .47$), interaction anxiousness ($r = .40$), and public self-consciousness ($r = .30$) were related to the SPAS (Hart et al., 1989). Criterion validity was also found, where individuals with high social physique anxiety reported they thought frequently of their bodies, were less comfortable, and more stressed than those with low social physique anxiety (Hart et al., 1989).

In this study, the 9-item SPAS scale was used, based upon recommendations by Martin Rejeski, Leary, McAuley, & Bane, 1997. Items 1, 2, and 5 have been eliminated from the SPAS to strengthen the unidimensionality of the scale, and to dispute empirical evidence that social physique anxiety might be multidimensional. Martin et al. (1997) found that the 9-item scale maintained similar reliability and validity scores to the 12-item scale as correlations ($r = .99$) revealed; thus, the 9-item SPAS does not compromise the reliability and validity of the scale.

2.1.2.7 Obligatory exercise

The Obligatory Exercise Questionnaire (OEQ; Pasman & Thompson, 1998; see Appendix G) is a 20-item measure. The OEQ measures attitudes and activities regarding personal exercise routines (e.g., “*When I miss a scheduled exercise session I may feel*

tense, irritable, or depressed”). Respondents are asked to choose how often the statements reflect their exercise behaviour. Responses are indicated on a 4-point Likert-type scale ranging from 1 (never) to 4 (always). Higher scores on the OEQ indicate a stronger sense of obligation to exercise. Good test-retest reliability has been established with young women for the OEQ, with scores ranging from $r = .68$ to $r = .76$ (Steffen & Brehm, 1999). Further, after two weeks, test-retest reliability has also been reported to be $r = .96$ with a university undergraduate sample (Pasman & Thompson, 1988). Internal consistency for the OEQ ranges from $r = .62$ to $r = .96$ (Pasman & Thompson, 1988; Steffen & Brehm, 1999; Thompson & Pasman, 1991). Construct validity was achieved by correlating the OEQ with two related behaviours, anxiety if unable to exercise and probability of exercising despite a painful injury, with a university undergraduate sample. The correlations indicated that the OEQ was related to both anxiety if unable to exercise ($r = .87$) and exercising despite an injury ($r = .72$; Pasman & Thompson, 1988).

2.1.2.8 Exercise behaviour

The Leisure Time Exercise Questionnaire (LTEQ; Godin & Shephard, 1985; see Appendix H) assesses exercise behaviour with two scores. First (LTEQ 1), a total exercise score is assessed by the frequency of strenuous, moderate, and mild exercise (weighted by anticipated metabolic equivalent values [$METS$] of each level of exercise over an average 7-day period). METS are used to describe the intensity of activities. Roughly, one to two METS corresponds to mild activity (e.g., golf), three to six METS corresponds to moderate activity (e.g., fast walking), and six or more METS corresponds to vigorous activity (e.g., running). Second (LTEQ 2), the frequency an individual engages in sweat-inducing activity in a week is assessed on a 3-point scale ranging from 1 (often) to 3 (never/rarely). Test-retest reliability for LTEQ 1 ($r = .62$) and for LTEQ 2 ($r = -.69$) has

been found with an adult sample in a one-month period. Further, both have been shown to be related to accelerometer motion scores (LTEQ 1, $r = .32$; LTEQ 2, $r = -.29$) and VO₂max scores (LTEQ 1, $r = .56$; LTEQ 2, $r = -.57$; Jacobs, Ainsworth, Hartman, & Leone, 1993).

2.1.3 Design and Procedure

A correlational study design was used to explore the relationship between self-compassion, self-determination, and the specified outcomes. Although a correlational design did not allow the conclusion of a cause-and-effect relationship, correlational research is a necessary first step to examine whether self-compassion is related to self-determined motives to exercise. Second, hierarchical regression analyses were conducted to determine if self-compassion contributed unique variance beyond self-esteem with the specified outcomes.

Before recruiting participants, a pilot study was done with eight female regular exercisers between the ages of 19 and 27 to ensure the clarity, length, and readability of the questionnaire package. Minor adjustments to the instructions of the questionnaire package were made, and the approximate time commitment for the questionnaire package was determined to require 15 to 20 minutes to complete. Recruitment of participants entailed inviting women to participate in a research study via classroom presentations, and poster presentations given at the exercise facility at the University of Saskatchewan. Participants were offered an incentive of winning one of two fifty-dollar gift certificates to be used on campus. Those initially interested in the study were asked to put their name and email address on a sign-up sheet following which the researcher contacted potential participants via email with an invitation to complete the questionnaire package.

Participants' names were only required for contact purposes; therefore, their data remained anonymous.

The questionnaire package was delivered in an online format where I created a secure website for the questionnaire package to be completed. The first page of the website explained the nature of the study, the time commitment, and necessary ethical requirements. Informed consent (see Appendix I for consent form) was presented at the introduction of the survey. By completing the survey online via the web, consent to participate was obtained. Web-based questionnaires are becoming a popular format to deliver questionnaires. Gosling, Vazire, Srivastava, and John (2004) compared internet data collection methods with paper-and-pencil methods on six preconceptions about internet questionnaires that have been raised as likely limitations. They found that internet samples were relatively diverse in gender, socioeconomic status, geographic region, and age. Internet samples also did not appear to be tainted by false data or repeat responders. Further, internet users did not differ from nonusers on markers of adjustment and depression, personality, and motivation to complete surveys. Most importantly, Gosling et al. (2004) found that internet-based findings were consistent with paper-and-pencil findings. Therefore, it was concluded that internet methods are “of at least as good quality as those provided by traditional paper-and-pencil methods” (p. 102). Richman, Kiesler, Weisband, and Drasgow (1999) compared social desirability bias in online questionnaires to paper-and-pencil questionnaires. They found that there was less distortion on the online measure than the paper-and-pencil measures, especially when the participants were alone and could backtrack. The present study did not control whether the participants were alone when completing the survey, however, participants could backtrack, change responses, and skip questions if they chose to. In addition, Pettit

(1999) found that the respondents of web-based surveys included greater percentages of women, youth, and higher educated individuals than in general populations, indicating that the web-based survey option was favorable for this study considering the participants required.

2.1.4 Data Analysis

Prior to running statistical analyses, the data were screened for missing data and outliers. Participants who had two or more missing data points from at least two of the questionnaires were eliminated from the analysis (10 participants). Those participants who had one missing data point were retained and the missing value was estimated by inserting the mean value from the available data (11 participants; Tabachnick & Fidell, 2001). Outliers were identified by a standard score greater than 3.29 standard deviations above the mean on any of the measures; there were no outliers.

The variables were examined to test the assumptions of normality, linearity, and homoscedasticity of multiple regression. Normality was assessed by examining the distribution of the variables and histograms of the standardized residuals. Linearity and homoscedasticity were examined through the scatterplots of the residuals.

Internal consistency of the Behavioural Regulations in Exercise Questionnaire (BREQ), Rosenberg Self-Esteem Scale (RSES), Self-Compassion Scale (SCS), Goal Orientations in Exercise Measure (GOEM), Social Physique Anxiety Scale (SPAS), and Obligatory Exercise Questionnaire (OEQ) were examined using Cronbach's alpha. To examine that self-compassion would be related (i) positively to identified, integrated, and intrinsic motivation, (ii) negatively to external and introjected motivation, (iii) positively related to task goals, (iv) negatively to ego goals, (v) negatively to social physique

anxiety, and (vi) negatively to obligatory exercise behaviour, Pearson product moment correlational analyses were conducted.

To test the second hypotheses (that self-compassion would predict unique variance beyond self-esteem on identified, integrated, and intrinsic motivation to exercise, and on task goals; and self-compassion would predict unique variance beyond self-esteem on external and introjected motivation to exercise, ego goals, social physique anxiety, and obligatory exercise hierarchical and simultaneous regression analyses were conducted. Hierarchical regression analyses were conducted because theoretically it was expected that self-compassion would contribute unique variance over and above self-esteem. Hierarchical regression analysis allows the researcher to specify the order of the variables according to logical or theoretical considerations (Tabachnick & Fidell, 2001). Information about variables in hierarchical regression equations are given at each step. A subsequent regression analysis was done to further understand the unique variance of self-esteem. For the analyses, the two predictor variables were self-esteem and self-compassion. In the hierarchical regression analyses, self-esteem was entered into the equation in Step 1 followed by self-compassion in Step 2. The dependent variables included the specified outcome variables (BREQ, GOEM, SPAS, and OEQ), where separate hierarchical and simultaneous regression analyses were run for each variable. The level of significance was set at $p < .05$ prior to all analysis.

CHAPTER 3

3.1 RESULTS

3.1.1 Scale Reliabilities and Descriptive Statistics

Descriptive statistics for the Behavioural Regulations in Exercise Questionnaire (BREQ), Rosenberg Self-Esteem Scale (RSES), the Self-Compassion Scale (SCS), the Goal Orientations in Exercise Measure (GOEM), the Social Physique Anxiety Scale (SPAS), the Obligatory Exercise Questionnaire (OEQ), and the Leisure Time Exercise Questionnaire (LTEQ) are shown in Table 3.1.

The variables were normally distributed except for four subscales on the BREQ and on the GOEM (see Table 3.2). The distributions of the BREQ and GOEM subscales were normalized using logarithmic and square root transformations, as recommended by Tabachnick and Fidell (2001). The transformations did not significantly change the regression coefficients (when compared to the regression coefficients without transformations); therefore, the untransformed data were used in the analyses.

3.1.2 Tests of Hypotheses

3.1.2.1 Hypothesis 1: Outcomes related to self-compassion

A relationship was expected between self-compassion and motivation, task goals and ego goals, social physique anxiety, and obligatory exercise. Pearson product moment correlations among the variables examined in this study are presented in Table 3.3¹.

¹ For a complete table that includes all scales and subscales see Appendix J. Select subscales were not included in the analyses because they did not directly address the hypotheses.

Table 3.1

Descriptives and Reliabilities for BREQ, RESE, SCS, GOEM, SPAS, OEQ, and LTEQ

Variable	Mean	SD	Reliability α
BREQ			0.82
External	0.74	0.78	0.82
Introjected	2.14	1.04	0.81
Identified	3.48	0.53	0.66
Integrated	2.87	0.93	0.85
Intrinsic	3.22	0.64	0.83
Range 0-4			
RSES			
Range 0-30	21.12	4.75	0.88
SCS	3.03	0.67	0.94
Kindness	2.98	0.76	0.83
Judgment	2.89	0.86	0.83
Humanity	3.13	0.85	0.78
Isolation	3.08	0.90	0.79
Mindfulness	3.23	0.74	0.75
Over-identified	2.91	0.92	0.78
Range 1-5			
GOEM			0.82
Task	4.30	0.65	0.87
Ego	1.98	0.89	0.86
Range 1-5			
SPAS			
Range 9-45	29.00	8.49	0.92
OEQ	47.44	8.22	0.86
Range 20-80			
Emotional	8.98	2.73	0.76
Range 4-16			
Frequency	11.10	2.26	0.71
Range 4-16			
Preoccupation	3.60	1.43	0.81
Range 2-8			
LTEQ	58.55	22.4	0.48

Note. Range refers to the lowest to highest possible score for each scale. $N = 252$.

Table 3.2

Skewness and Kurtosis Coefficients for scales with Non-Normal Distributions

Variable	Skewness <i>Std. error = .153</i>	Kurtosis <i>Std. error = .306</i>
External motivation	6.72*	2.26*
Identified motivation	-7.18*	1.71
Integrated motivation	-4.05*	-1.07
Intrinsic motivation	-4.92*	1.80
Task Goals	-4.71*	-1.03
Ego Goals	6.25	1.98*

Note.

Reported skewness and kurtosis coefficients were divided by their standard error as recommended by Tabachnick and Fidell (2001) to determine whether they are classified as having skewness or kurtosis. Coefficients that are determined as having skewness or kurtosis are marked by asterisks, * $p < .05$.

It was expected that self-compassion would be positively related to identified, integrated, and intrinsic motivation. Self-compassion was not significantly related to identified or integrated motivation; however, it was positively correlated to intrinsic motivation. As expected, self-compassion was negatively related to external and introjected motivation.

The third and fourth subparts of Hypothesis 1 predicted self-compassion to be positively related to task goals, and negatively related to ego goals. Self-compassion was not significantly related to task goals; however, there was a significant negative relationship between self-compassion and ego goals.

Under the fifth prediction for Hypothesis 1, self-compassion was expected to be negatively related to social physique anxiety. There was a significant negative relationship between self-compassion and social physique anxiety.

The sixth relationship that was expected was that self-compassion would be negatively related to obligatory exercise behaviour. Self-compassion was found to be significantly negatively related to obligatory exercise.

In sum, the results of Hypothesis 1 showed that self-compassion was related to outcomes of the exercise domain. Specifically, self-compassion was related to intrinsic, introjected, and external motivation, ego goals, social physique anxiety, and obligatory exercise. Self-compassion was not related to identified and integrated motivation and task goals². The variables found to be significantly related to self-compassion were retained for testing of Hypothesis 2 to investigate if self-compassion predicted unique variance over and above self-esteem.

² The variables that were not related to self-compassion in hypothesis one were not included in section 3.1.2.1.1; however, those regression analyses can be found in Appendix K.

Table 3.3

Pearson Correlations Among SCS; BREQ; RSES; GOEM; SPAS; and OEQ

Variable	1.	2a.	2b.	2c.	2d.	2e.	3.	4a.	4b.	5.	6.
1. SCS	----										
BREQ											
2a. External	-0.24*	----									
2b. Introjected	-0.41*	0.36*	----								
2c. Identified	0.01	-0.10	0.33*	----							
2d. Integrated	0.11	-0.12	0.29*	0.63*	----						
2e. Intrinsic	0.19*	-0.21*	0.03	0.50*	0.54*	----					
3. RSES	0.71*	-0.32*	-0.40*	0.08	0.14*	0.20*	----				
GOEM											
4a. Task	0.12	-0.20*	0.03	0.32*	0.27*	0.30*	0.19*	----			
4b. Ego	-0.20*	0.06	0.31*	0.11	0.25*	0.10	-0.11	0.17*	----		
5. SPAS	-0.57*	0.30*	0.43*	0.01	-0.09	-0.20*	-0.60*	-0.09	0.04	----	
6. OEQ	-0.24*	0.07	0.55*	0.57*	0.54*	0.32*	-0.21*	0.22*	0.39*	0.27*	----

* = $p < .05$

SCS = Self-Compassion Scale

BREQ = Behavioural Regulations in Exercise Questionnaire

RSES = Rosenberg Self-Esteem Scale

GOEM = Goal Orientation in Exercise Measure

SPAS = Social Physique Anxiety Scale

OEQ = Obligatory Exercise Questionnaire

3.1.2.1.1 Hypothesis 2: Unique contributions of self-compassion

3.1.2.1.2. Motivation to exercise, self-esteem, and self-compassion

For the first analysis, external motivation was considered the dependent variable in the equation with self-esteem entered on Step 1 and self-compassion entered on Step 2 (for all regression analyses self-esteem will be entered into the regression equation in Step 1 and self-compassion will be entered on Step 2). Results showed that Step 1 of the model accounted for 10% of the variance of external motivation, $F(1, 250) = 27.75, p < .05$ (see Table 3.4). In Step 2 self-compassion was found to not add any significant unique variance beyond self-esteem on external motivation, which was contrary to hypotheses.

For the second analysis, introjected motivation was entered as the dependent variable in the equation. In Step 1 results showed that the model accounted for 15.1% of the variance of introjected motivation, $F(1, 250) = 44.56, p < .05$ (see Table 3.5). Step 2 significantly increased the variance accounted for in introjected motivation to a total of 18.6% of the variance of introjected motivation, $F(2, 249) = 28.45, p < .05$. Semipartial correlations revealed that for introjected motivation, self-esteem accounted for 2.1% unique variance, self-compassion accounted for 3.5% unique variance, and 13% of the variance of introjected motivation was shared amongst self-esteem and self-compassion.

For the third analysis, intrinsic motivation was entered as the dependent variable in the equation. Results showed that in Step 1 the model accounted for 3.5% of the variance of intrinsic motivation, $F(1, 250) = 9.16, p < .05$ (see Table 3.6). In Step 2 self-compassion was found to not add any significant unique variance beyond self-esteem on intrinsic motivation, which was contrary to hypotheses.

Table 3.4

Summary of Hierarchical Regression Analysis of External Motivation

Predictor Variable	B	SE B	B	R ²	ΔR ²
Step 1 RSES	-.052	.010	-.316*	.100*	.100*
Step 2 RSES	-.049	.014	-.298*		
SCS	-.030	.099	-.026	.100	.000

* $p < .05$ (two-tailed significance)

Table 3.5

Summary of Hierarchical Regression Analysis of Introjected Motivation

Predictor Variable	B	SE B	B	R ²	ΔR ²
Step 1 RSES	-.085	.013	-.389*	.151*	.151*
Step 2 RSES	-.045	.018	-.203*		
SCS	-.410	.126	-.263*	.186*	.035*

* $p < .05$ (two-tailed significance)

Table 3.6

Summary of Hierarchical Regression Analysis of Intrinsic Motivation

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	.025	.008	.188*	.035*	.035*
Step 2 RSES	.014	.012	.107		
SCS	.109	.084	.114	.042	.007

* $p < .05$ (two-tailed significance)

3.1.2.1.3. Ego goals, self-esteem, and self-compassion

On goal orientations, ego orientation was entered in the equation as the dependent variable in analysis four. Results showed that in Step 1 self-esteem did not explain a significant portion of the variance in ego goals (see Table 3.7). Supporting the hypothesis regarding the role of self-compassion; however, the addition of Step 2 added a significant increment in variance accounted for in ego goals 2.8%, $F(2, 249) = 5.30, p < .05$.

3.1.2.1.4. Social physique anxiety, self-esteem, and self-compassion

For analysis five, social physique anxiety was entered as the dependent variable. Results showed that in Step 1 the model accounted for 35.3% of the variance in social physique anxiety, $F(1, 250) = 136.45, p < .05$ (see Table 3.8). In Step 2 significantly increased the variance accounted for in social physique anxiety to a total of 39.5 %, $F(2, 249) = 81.34, p < .05$. Semipartial correlations revealed that self-esteem accounted for 7.6% unique variance for social physique anxiety and self-compassion accounted for 4.2% unique variance, while 27% of the variance of physique anxiety was shared amongst self-esteem and self-compassion.

3.1.2.1.5. Obligatory exercise, self-esteem, and self-compassion

For analysis six, obligatory exercise was entered as the dependent variable. Results showed that in Step 1 the model accounted for 4.2% of the variance of obligatory exercise, $F(1, 250) = 10.96, p < .05$ (see Table 3.9). The addition of self-compassion on Step 2 significantly increased the variance accounted for in obligatory exercise to a total of 6 %, $F(2, 249) = 8.01, p < .05$. Semipartial correlations revealed that self-esteem accounted for .3% unique variance for obligatory exercise and self-compassion accounted for 1.8% of unique variance, while 3.9% of the variance of obligatory exercise is shared amongst self-esteem and self-compassion.

Table 3.7

Summary of Hierarchical Regression Analysis of Ego Goal Orientation

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	-.021	.012	-.112	.012	.012
Step 2 RSES	.011	.016	.056		
SCS	-.318	.117	-.238*	.041*	.028*

* $p < .05$ (two-tailed significance)

Table 3.8

Summary of Hierarchical Regression Analysis of Social Physique Anxiety

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	-1.063	.091	-.594*	.353*	.353*
Step 2 RSES	-.698	.124	-.390*		
SCS	-3.683	.885	-.289*	.395*	.042*

* $p < .05$ (two-tailed significance)

Table 3.9

Summary of Hierarchical Regression Analysis of Obligatory Exercise

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	-.355	.107	-.205*	.042*	.042*
Step 2 RSES	-.121	.150	-.070		
SCS	-2.362	1.069	-.192*	.060*	.018*

* $p < .05$ (two-tailed significance)

3.2 DISCUSSION

The purpose of this study was to examine how self-compassion would be related to self-determined motives to exercise and to outcomes in the exercise domain, and whether self-compassion would explain unique variance beyond self-esteem on those variables. The results largely supported the hypotheses, finding that self-compassion was related to intrinsic, external, and introjected motivation, ego goals, social physique anxiety, and obligatory exercise. In addition, self-compassion explained unique variance beyond self-esteem with introjected motivation, ego goals, social physique anxiety, and obligatory exercise.

These findings suggest three main contributions to the literature. First, self-compassion may be relevant to the exercise domain. Self-compassion is considered in its infancy in western literature (Neff, 2003a), and consequently has not been explored to date in the exercise domain. Second, this study expands the use of self-determination theory. Self-compassion was found to be related to motives to exercise. This suggests that self-determined motives may be more likely to be fostered when based upon a reflective, accepting attitude of the self, as in self-compassion. However, more research is needed to explore the role of the self-concept in the internalization of motivation. This study's final key contribution to knowledge is its inquiry into young adult women's exercise. Self-compassion was found to be related to exercise outcomes, suggesting that self-compassion may be a factor of the quality of young women's exercise experiences.

The young women's exercise behavior and experiences with the outcomes of this study are similar to those of comparable studies (see Table 3.10). Participants reported similar motivation scores on the Behavioural Regulations in Exercise Questionnaire (BREQ) to those reported by Wilson et al. (2006) for undergraduate students enrolled in a

Table 3.10

Comparison of Means for the BREQ, RESE, SCS, GOEM, SPAS, OEQ, and LTEQ

Present Study		Wilson et al.(2006)	Kowalski et al. (2001)	Neff (2003b)	Elbourne & Chen (2007)	Petherick & Markland (2005)
Variable	Mean	Mean	Mean	Mean	Mean	Mean
BREQ						
External	0.74	0.82				
Introjected	2.14	1.28				
Identified	3.48	3.09				
Integrated	2.87	2.25				
Intrinsic	3.22	4.49				
RSES	21.12			29.34		
SCS	3.03			2.95		
GOEM						
Task	4.30					4.13
Ego	1.98					2.20
SPAS	29.00		27.49			
OEQ	47.44				48.80	
LTEQ	58.55	70.58	51.47			

large Canadian university. Self-esteem scores on the Rosenberg Self-Esteem Scale (RSES), and self-compassion scores on the Self-Compassion Scale (SCS) were comparable to those reported in Neff's (2003b) study including undergraduate students selected from undergraduate psychology courses. Goal Orientation in Exercise Measure (GOEM) scores were comparable to those reported by Petherick and Markland (2005) in leisure center exercise participants. Scores on the Social Physique Anxiety Scale (SPAS) were similar to those reported by Kowalski et al. (2001) by female undergraduate students. Obligatory Exercise Questionnaire (OEQ) scores were similar to young women recruited from a University (Elbourne & Chen, 2007). As additional information, question one on the Godin Leisure Time Exercise Questionnaire (LTEQ) assessed how many times within a 7-day period participants engaged in strenuous, moderate, or mild exercise (weighted by anticipated metabolic equivalent values [METs] of each level of exercise over an average 7-day period). The Leisure Time in Exercise Questionnaire score for the current sample were amongst the activity scores for female undergraduate students in Wilson et al. (2006) and Kowalski et al. (2001) studies. Question two of the Godin Leisure Time Exercise Questionnaire asked how often participants worked up a sweat in their exercise during a 7-day period (1 = often, 2 = sometimes, or 3 = never/rarely). The average score on the 3-point scale that participants reported working up a sweat during a 7-day period was 1.5.

3.2.1 Self-compassion in the exercise domain: Relationships to health outcomes

Of the autonomous forms of motivation, only intrinsic motivation was found to be positively related to self-compassion, potentially due to the emphasis on unconditional self-worth in intrinsic motivation. Both intrinsic motivation and self-compassion have powerful features that reflect human life. One of those features is feelings of self-worth

in times of success and failure. Thogersen-Ntoumani and Ntoumanis (2006) explored the role of self-determined motives in exercisers physical self-evaluations. They expected that autonomous forms of motivation would be related to authentic self-evaluations, but that only intrinsic motives were related to authentic self-evaluations. They explained that intrinsic motivation involves a strong inclination to be authentic to the self, which involves unconditional feelings of self-worth. Thogersen-Ntoumani and Ntoumanis' (2006) study supports that intrinsic motives are specifically related to unconditional self-worth. Unique qualities of intrinsic motivation were also addressed in Neff and colleagues' (2005) study exploring academic success and failures of students. Self-compassion and intrinsic motivation were directly related to students' academic successes, but more importantly, self-compassion and intrinsic motives were also related to students' academic failures. Despite failing an academic task, those who were self-compassionate and intrinsically motivated remained self-compassionate and intrinsically motivated. Neff et al. (2005) offered that because self-compassion and intrinsic motivation share a greater sense of self-worth, less self-evaluation is engaged in, fostering feelings of self-worth that outlast situational difficulties. In sum, a shared value of unconditional self-worth may link self-compassion and intrinsic motivation.

Contrary to the hypotheses, the other forms of autonomous motivation (identified and integrated motivation) were not found to be significantly positively related to self-compassion, likely because self-worth may be thwarted to attain value outcomes. Identified and integrated motivations were expected to be related to self-compassion since they are slightly autonomous (Ryan & Deci, 2000). Identified motivation is engaged in when the task is seen as valuable. Integrated motivation is engaged in because the task is seen as valuable, but more importantly, integrated motivation incorporates aspects of the

task into the self (Deci, Vallerand, Pelletier, & Ryan, 1991). Self-compassion may not be related to identified and integrated motivation since they still involve performing a task to attain separable outcomes. Self-worth can fluctuate depending on how a task is perceived (successful or unsuccessful), inviting self-evaluation leading to contingent character.

Thogersen-Ntoumani and Ntoumanis (2006) found in their study that unconditional self-worth was not related to identified motivation in leisure exercisers. Although identified and integrated motivations are considered autonomous, Thogersen-Ntoumani and Ntoumanis (2006) suggest that they are *not autonomous enough* to be related to unconditional feelings of self-worth. It is expected that since conditional self-worth and self-evaluation can be characteristics of identified and integrated motivation, self-compassion is not highly related to these types of motivation (Deci & Ryan, 1987).

Finally, young adults that were higher in external and introjected motivation reported lower self-compassion. External motivation occurs when behaviour is controlled by specific external contingencies (Wilson & Rodgers, 2002). Introjected motivation occurs when one feels coerced to exercise in order to avoid negative feelings or support conditional self-worth (Wilson & Rodgers, 2002). Coercion is a driving force in extrinsic motivation (Ryan & Brown, 2003). Evidence indicates that controlling motivations are accompanied by pressure, tension, and anxiety (Ryan & Connell, 1989). External and introjected motivations involve self-worth contingent upon an outcome (Ryan, 1982). Determining self-worth from the outcome of a task involves self-evaluation. As a result, in external and introjected motivation people behave because they feel they have to and not because they want to (Deci, Eghrari, Patrick, & Leone, 1994). As a result, people feel that their self-worth is contingent upon success, thereby engaging in self-evaluation to create or sustain their self-worth (Sheldon, Williams, & Joiner, 2003). Self-compassion is

likely to be negatively related to external and introjected motivation because of the self-evaluation process in external and introjected motivation.

Self-evaluation may also explain the negative relationship between ego goals and self-compassion. Ego goals were expected to be negatively related to self-compassion since ego goals involve evaluating one's performance. Ego goals are defined as persisting with an activity in order to outperform others and demonstrate superior ability (Hein & Hagger, 2007; Kilpatrick, Bartholomew, & Riemer, 2003). Self-evaluation is a vital aspect of ego oriented goals since realizing the attainment or failure of a goal involves evaluating the performance of the self in relation to the performance of others (Kilpatrick et al., 2003). With ego goal orientation, involvement in an activity is experienced as a means to an end (Deci & Ryan, 1985). Ego goals are other-oriented, meaning goals are set and attained in relation to other's performance. In contrast, self-compassion is characterized by a lack of self-evaluation (Neff, 2003b). Self-compassion operates as an effective emotional strategy by neutralizing negative emotional patterns and engendering more positive feelings of kindness and connectedness (Neff et al., 2005). As a result, someone who is self-compassionate does not need self-evaluations to deem him or her self worthy; they feel worthy of kindness because they are human.

When exploring the second half of the goal orientation hypothesis, that task goals would be positively related to self-compassion, no relationship was found. This result is particularly interesting since Neff and colleagues' (2005) study on academic achievement goals found that self-compassion was directly related to task goals in a learning context. Task goals have also been shown to be related to other outcomes of well-being such as intrinsic motivation, self-esteem, competence, and adaptive achievement strategies (Biddle, Wang, Kavussanu, & Spray, 2003; Hein & Hagger, 2007;

Papaioannou, Bebetos, Theodorakis, Christodoulidis, & Kouli, 2006). Task goals are defined by a focus on personal improvement, where perceived success is largely a function of effort and persistence (Kilpatrick et al., 2003). Task goals are self-oriented, meaning that success and failure are determined by feeling competent and having a sense of self-mastery (Hein & Hagger, 2007). Self-compassionate individuals are also self-oriented, extending kindness and understanding to the self rather than harsh judgment and self-criticism (Neff, 2004). Self-compassion was expected to be related to task goals because emotions and cognitions of the self play an important role in achievement goal orientation (Neff et al., 2005). Self-compassion should lead to an emotionally positive attitude that is not contingent on performance evaluations. As a result, self-compassionate individuals should be more likely to engage in activities out of enjoyment, rather than out of a desire to protect or enhance self-esteem (Neff et al., 2005).

Two explanations as to why task goals were not positively related to self-compassion in this study may be that the task goal questionnaire was not answered by participants as intended by the measure, or perhaps there may be specific obstacles in task goal formation in the exercise domain. However, both scenarios are unlikely. First, if the task goal scores in this study were inaccurate, task goals should not be related to other outcomes of well-being that the literature has shown task goals to be linked to, such as motivation (Duda & Hall, 2001; Hein & Hagger, 2007; Roberts, 2001). In a review on goal orientations in physical activity, results were highly consistent across 42 of 47 studies reporting a positive association between task orientation and positive affect (Biddle et al., 2003). In the current study, task goals were positively related to identified ($r = .32$), integrated ($r = .27$), and intrinsic ($r = .30$) motivation. Theoretically, task goals and autonomous motivation are related because a focus on task mastery encourages

challenges and supports autonomy (Deci & Ryan, 1985). Conversely, task orientation should be either unrelated or negatively related to negative affect because task orientation is related to feelings of positivity (Deci & Ryan, 1985). Task goals were found in this study not to be related to introjected motivation, and negatively related to external ($r = -.20$) motivation.

Task goal formation has also been found to be modestly related to self-esteem (Hein & Hagger, 2007). Task goals are related to self-esteem because self-esteem generates feelings of positivity towards to self (Hein & Hagger, 2007). The results of this study showed that task goals were related to self-esteem ($r = .19$) as expected. The reason for the absent relationship amongst task goals and self-compassion in this study is unlikely due to inaccurate data of task goals since the results indicate that task goals are appropriately related to controlled and autonomous motives and to self-esteem.

Secondly, Ames (1992) suggested that ‘motivational climate’ may impact goal perspectives, such that the context of goal orientations may create obstacles for the formation of goal perspectives. A motivational climate that fosters task orientation includes some or all aspects of the following: success defined in terms of individual progress and improvement, allowing choice, valuing effort, evaluating participants through their effort and progress, and viewing mistakes as a part of learning (Ames, 1992; Biddle et al., 1995). It is possible that the exercise domain offers women exercisers specific obstacles for task goal formation; however, in this study there is no evidence to support this explanation. As discussed above, task goals were related in this study to other forms of well-being, such as autonomous motives and self-esteem. If the ‘motivational climate’ of exercise impacted task goal formation in this study, task goals would not be fittingly related to motives to exercise and self-esteem in this study. Self-

compassion may not be related to task goals for reasons other than those suggested. After the results of this study have been discussed, a later section of this thesis (see section 3.2.3) will include revisiting this topic with a theoretical explanation of why task goals and self-compassion may not be related.

Self-compassion was found to be related to other indicators of well-being. Women who were higher in social physique anxiety reported being lower in self-compassion. It was expected that women who report higher social physique anxiety may report lower self-compassion because social physique anxiety has a substantial self-evaluation component (Bane & McAuley, 1998). Social physique anxiety is rooted in self-presentation and social anxiety frameworks (Hart, Leary, & Rejeski, 1989). Self-presentational concerns originate from weight, appearance, body shape, and tone anxieties that involve self-evaluation (Bane & McAuley, 1998; Crawford & Eklund, 1994). Pressures to achieve a thin body type may arise from comparisons of perceived 'ideal' female figures that lead to body anxiety (Bordo, 1993; Heinberg & Thompson, 1995; Sabiston, Crocker, & Munroe-Chandler, 2005). Thus, the self-evaluation process that occurs to achieve body related anxiety may explain the negative relationship between social physique anxiety and self-compassion. Self-compassion does not encourage comparisons that would invite individuals to feel their worth is contingent on beauty standards (Neff, 2005). Instead, self-compassion requires self-kindness and is seen as part of the larger human experience (Neff, 2003b). Self-compassion is not based on set standards; thus, people feel worthy because they are human beings (Neff, 2004).

Finally, as expected, young women who were more self-compassionate reported lower obligatory exercise. This may be due to negative associations among obligatory exercise and well-being (Elbourne & Chen, 2007). Obligatory exercise refers to when

exercise develops into a compulsive behaviour (Elbourne & Chen, 2007). Exercise becomes excessive to the point of impaired social functioning, involving exercising in ways that are harmful to one's physical and psychological health (Steffen & Brehm, 1999). Obligatory exercise can become severe enough to be linked to outcomes of anorexia nervosa and bulimia in adults (Brehm & Steffen, 1998; Brewerton, Stelfox, Hibbs, Hodges, & Cochrane, 1995). Self-compassion was expected to be negatively related to obligatory exercise behaviour because individuals who treat themselves with understanding and kindness should engage less in activities that are harmful to their well-being (Leary, Tate, Adams, Allen, & Hancock, 2007). Specifically, Neff (2003a) suggested that having compassion for oneself involves giving up harmful behaviours and encouraging actions to further well-being. Self-kindness, common humanity, and mindfulness are the three components of self-compassion that work together to optimize functioning. When feelings of self-compassion are complete and genuine they encourage change where needed, and rectifying harmful or unproductive patterns of behaviour (Neff, 2003b). Self-compassion and obligatory exercise may be negatively related to one another because self-compassion facilitates resilience and coping, guiding self-compassionate individuals to work through self-harming behaviours rather than over-identifying with them.

3.2.2 Unique contributions of self-compassion over and above self-esteem

Self-compassion was expected to make unique contributions over and above self-esteem on the variables in this study because self-compassion does not involve the self-evaluation process of self-esteem (Neff, 2003a). Leary and MacDonald (2003) spoke to the differences between self-esteem and self-compassion by explaining that self-esteem is based on believing that the self is valued by others; while self-compassion is based on

positive feelings to care for oneself. Leary et al. (2007) suggested that some of the widely proclaimed benefits of self-esteem documented in the past may in fact be a function of self-compassion rather than self-esteem. The differences between self-compassion and self-esteem may have gone undetected until now because self-compassion was not previously measured (Leary et al., 2007). Leary et al. (2007) explored the differences between low- and high-self-compassionate and self-esteemed individuals reactions to an actual unpleasant interpersonal event. Participants were asked to talk about themselves following a list of topics, and then received feedback from an observer about their attributes (such as being socially skilled or unskilled; and being mature or immature). They found that self-compassion was associated with lower negative emotions, and self-esteem with higher negative emotions. Thereby, the process that self-compassionate and self-esteemed people use to interpret and cope with negative life events may be responsible for the differences between self-compassion and self-esteem. Overall, the results of their study suggest that self-compassion attenuates people's reactions to negative events in ways that are distinct from, and in some cases, may be more beneficial than self-esteem.

Regardless of the differences between self-compassion and self-esteem, Leary et al. (2007) did not dismiss the positive benefits of self-esteem. In their study, Leary and colleagues found that high self-esteem helped people to avoid negative self-feelings. The people who reported the most negative self-feelings were those low in self-esteem and low in self-compassion. People who are high in self-esteem maintain positive self-feelings when encountering negative life events by sometimes engaging in self-serving biases, such as downward social comparisons (Blaine & Crocker, 1993; Taylor & Brown, 1988). However, Ryan and Brown (2003) acknowledged that the self-evaluation process

of self-esteem is a “natural” human tendency that is both evolutionary and developmental. Although there are differences in self-evaluation between self-compassion and self-esteem, Neff (2003b) found that self-compassionate people tend to have high self-esteem. Neff (2003b) showed that self-compassion was moderately related to self-esteem ($r = .59$), and in the present study self-compassion and self-esteem were also related ($r = .71$). It is not surprising that people who treat themselves with kindness and understanding may also have high self-esteem (Leary et al., 2007). The difference between self-compassion and self-esteem, that makes self-compassion potentially more associated with well-being, is how self-compassionate individuals deal with negative life events. Leary et al. (2007) and Neff (2005) both suggested that self-compassion is most useful in times of difficulty. Leary and colleagues, in particular, showed that high self-esteem may not be as important as high self-compassion for negative outcomes in the exercise domain.

With the above context in mind, the following sections discuss the results of Hypothesis 2; which were that self-compassion explained unique variance beyond self-esteem with introjected motivation, ego goals, social physique anxiety, and obligatory exercise. Subsequently, I will also explore whether the results of this study support the contention that self-compassion is most useful in times of difficulty (see section 3.2.3).

Of the different types of motivation, self-compassion contributed unique variance of a negative nature beyond self-esteem only on introjected motivation, despite being related to external and intrinsic motivation as well. It is especially peculiar that self-compassion explained unique variance of a negative nature on introjected motivation, because Ryan and Brown (2003) argued that self-esteem should be positively related to introjection. Ryan and Brown (2003) argued that self-esteem is etiologically linked to contingent regard. As a result, self-esteem may increase one’s proneness to introjection.

As an alternative to self-esteem, Ryan and Brown suggested that regulation based on mindfulness would be associated with healthier, more authentic, and more vital living. Although Ryan and Brown did not specifically mention self-compassion as an alternative to self-esteem, they did suggest that concepts with qualities of mindfulness (like self-compassion) would facilitate self-regulation and well-being.

In the present study, self-compassion was found to uniquely predict variance in introjected motivation beyond self-esteem such that greater self-compassion was linked to lower introjected motivation. This result provides evidence that a construct such as self-compassion, which encourages unconditional self-worth, may be related to self-regulation and well-being. Neff's (2003a) and Ryan and Brown's (2003) theoretical assertions are supported by this finding, suggesting that constructs involving self-evaluation are associated with contingent regard, but that constructs involving an accepting mindful attitude are associated with well-being.

The observation that self-compassion did not predict unique variance over and above self-esteem for external and intrinsic motivation may be because concepts of the self, including self-compassion and self-esteem, may only slightly be related to the internalization of motivation. The literature shows that self-compassion and self-esteem are related to motivation (Neff, 2003a; 2003b; 2004; Neff et al., 2005; Ryan & Brown, 2003; Thøgersen-Ntoumani & Ntoumanis, 2006; Wilson & Rodgers, 2002). However, on their own, self-compassion and self-esteem may only minimally impact motivation because according to self-determination theory the type of motivation engaged in largely depends on the environment. The social environment is the strongest determinant of motivation in self-determination theory (Ryan & Deci, 2000). According to self-determination theory, people progress and digress along the self-regulated motivational

continuum based on the amount that they internalize the values of the activity that is being performed (Ryan & Deci, 2000). The internalization of value process is guided by the fulfillment of three needs; autonomy, competence, and relatedness (Ryan & Deci, 2000). The three needs are fulfilled by how people perceive their environment. Concepts of the self, such as self-esteem and self-compassion, influence motives to exercise, but may not impact the three psychological needs enough to determine exercise motives.

Alternatively, self-compassion may be a more significant factor in goal orientations. Self-compassion explained unique variance in ego goals over and above self-esteem, providing support for the idea that self-compassion is a healthy alternative conceptualization of the self. Ego goals reflect a framework as to how people interpret, experience, and act in achievement settings (Papaioannou et al., 2006). Individuals who are ego oriented tend to have more extrinsic motives (Biddle et al., 2003; Hein & Hagger, 2007). Ego goal perspective is characterized by how others rate in comparison to the self (Kilpatrick, Bartholomew, & Riemer, 2003). Self-esteem has parallels to ego goals since esteeming the self sometimes comes at the expense of the self, by equating the value of the self in relation to others (Neff, Rude, & Kirkpatrick, in press). On the other hand, self-compassionate individuals have an emotionally positive self-attitude not contingent on performance evaluation (Neff et al., 2005). Thus, as self-compassion increases, ego goal orientation tends to decrease (Neff et al., 2005). The major difference between self-esteem and self-compassion is self-evaluation (Neff, 2003b). Self-evaluation is a likely reason why greater self-compassion is connected to lower ego goals even after controlling for self-esteem.

Self-compassion also explained unique variance over and above self-esteem on social physique anxiety. This result may be due to the self-evaluation process of social

physique anxiety. Social physique anxiety is related to many aspects of behaviour (Leary, 1995), for example, those high in social physique anxiety are often high in extrinsic motives (Frederick & Morrison, 1996). Further, Wilson and Rodgers (2002) found that intrinsic and identified motivation were related to high physical self-esteem, whereas introjected and external motivation were related to low physical self-esteem. It is likely that self-compassion was inversely connected to social physique anxiety beyond the variability associated with self-esteem because like autonomous motives to exercise, self-compassion involves minimal self-evaluation. Self-compassion may be consistent with less body-related anxiety because it does not involve self-evaluation (Neff, 2004). Self-compassionate individuals are not likely to be concerned with the adequacy of their physique as judged by some socially defined standards because the worth of the self is not based on performance evaluations (Neff, 2004). Therefore, self-compassion may have explained unique variance over and above self-esteem on social physique anxiety since there is a substantial self-evaluation process in social physique anxiety.

Finally, young adults who were higher in obligatory exercise reported lower self-compassion. This result may be due to the emphasis on well-being in the self-compassion literature. According to Neff (2003a) self-compassion is specifically useful in times of pain or failure. In fact, increased self-compassion has been found to predict enhanced psychological health over time (Neff, Kirkpatrick, & Rude, in press). In contrast, obligatory exercise has been reported to be related to eating disorders, feelings of guilt and anxiety when an exercise schedule cannot be followed, a preoccupation with a lean body mass, body image dissatisfaction, and low self-esteem (Yates, 1991). Obligatory exercise behaviour is unlikely in those who report a self-compassionate self-reference point since self-compassion indicates that the three components of self-compassion (self-

kindness, common humanity, and mindfulness) work together to foster outcomes of well-being and protect against harmful outcomes (Neff, 2003a). The present study suggests that self-compassion might protect against harmful outcomes such as obligatory exercise since individuals high in self-compassion report being low in obligatory exercise behaviour. Moreover, when further examining the results of the present study, a trend emerges between self-compassion and self-esteem. In the presence of self-compassion, self-esteem no longer emerged as a predictor of obligatory exercise. Thus, the unique variance explained by self-esteem was no longer a significant contributor of obligatory exercise when self-compassion emerged. Self-compassion may explain variance with obligatory exercise that consumes the predictive power of self-esteem because self-compassion may be different from, and perhaps value added beyond self-esteem.

3.2.3 What self-compassion is not

The results have been primarily discussed in terms of what outcomes *are* related to self-compassion in the exercise domain; however, a clearer picture has been formed as to what self-compassion is *not* related to in the exercise domain. Leary et al. (2007) suggested that high self-esteem may not be as important as high self-compassion for negative outcomes in the exercise domain. In the current study, testing of hypothesis two showed that self-compassion explained unique variance beyond self-esteem on all variables associated with less well-being. Specifically, self-compassion contributed unique variance to introjected motivation, ego goals, social physique anxiety, and obligatory exercise where each variable can be argued to reflect limited well-being (Ackard, Brehm, & Steffen, 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000).

A possible explanation for this pattern of results may be how people *use* self-compassion. Neff et al. (2005) indicated that self-compassion operates as an effective emotional regulation strategy by neutralizing negative emotional patterns and engendering more positive feelings of kindness and connectedness. Neff and colleagues defined self-compassion as entailing a kind and understanding stance towards oneself in instances of pain or failure (Neff, 2003a; 2003b; Neff et al., 2005; Neff, Kirkpatrick, & Rude, 2007). Neff et al. (2007) argued that self-compassion is “most useful when viewed as a skill that people can develop to facilitate mental health, rather than as a static personality trait” (p. 146). This suggests that perhaps self-compassion is more of a coping strategy, rather than a trait, since it tends to emerge when people perceive suffering, inadequacy, or failure.

Leary et al. (2007) found that when people received negative feedback about themselves from others, self-compassion buffered people against negative psychological impact. Further, they also found that people who were high in self-compassion rated themselves similar to how others rated them. However, people low in self-compassion rated themselves significantly less positively than others did. Hence, they concluded that self-compassion was associated with lower negative reactions, and self-compassion facilitated people’s ability to cope with negative events.

Leary et al. (2007) suggested that high self-esteem may not be as important as high self-compassion when coping with negative life events. Self-compassion may act as a buffer against negative events and engender positive self-feelings when life goes badly (Leary et al., 2007). For those people who have low self-compassion, some challenges may prove too much. Challenges that exceed a person’s coping abilities may result in defensive functioning (Sheldon, Williams, & Joiner, 2003). This may explain why self-

compassion contributed more unique variance than self-esteem on variables associated with limited well-being. Perhaps individuals who are high on self-esteem but low on self-compassion revert to defensive functioning. As a consequence of defensive functioning the personal growth process may be thwarted, leaving low self-compassionate high self-esteemed individuals associated with variables reflective of less well-being in the exercise domain (Sheldon et al., 2003). Leary and colleagues suggested that self-compassion may be beneficial in helping people cope with negative life events in ways that are often different from, and better than, self-esteem. This may explain why those with the ‘healthiest’ outcomes in the literature seem to score the lowest on variables that are damaging to one’s well-being.

Returning to the discussion on task goals in hypothesis one, self-compassion was found not to be related to task goals, despite mounting evidence that self-compassion and task goals may be related. In light of the current discussion, self-compassion may not be related to task goals because self-compassion is most useful as a coping strategy against negative attitudes and behaviours. A review on goal orientations showed task goals to be associated with more motivationally positive patterns, and to have a large positive association with positive affect (Biddle et al., 2003). Self-compassion may be less evident for task goal orientation because task goals tend to be associated with greater well-being than ego goals (Neff et al., 2005). Self-compassion was expected to be related to task goals because self-compassion should lead to an emotionally positive attitude that is not contingent on performance evaluations (Neff et al., 2005); however, this was not the case. Self-compassion may not be related to task goals because self-compassion appears to be best used in times where self-evaluation is present; meaning, self-compassion may be most useful when self-evaluative behaviours are being engaged in.

Neff stated in earlier self-compassion research that self-compassion does not involve self-evaluation (Neff, 2003a; Neff, 2003b; Neff, 2004; Neff et al., 2005). Neff suggested that self-compassion thwarts the self-evaluation process all together. Instead of evaluating the self to maintain or create self-worth, self-compassionate people feel self-worth because they are human, thus there is no need to self-evaluate. However, recently, Neff et al. (2007) suggested that self-compassion may involve self-evaluation, but self-evaluation may operate differently within self-compassion. Perhaps self-compassionate individuals self-evaluate, but, those evaluations function differently in self-compassion because the worth of the self may not be contingent upon those evaluations (Neff et al., 2007). If self-worth is not contingent upon self-evaluations as it has been suggested to be in self-esteem, then perhaps self-evaluation is not negative as previously suggested (Baumeister, Smart, & Boden, 1996; Ellis & London, 1993; Hewitt, 1998; Patrick, Neighbors, & Knee, 2004; Swann, 1996). However, more research is needed on this topic. Leary et al. (2007) identified that it is unclear whether self-compassionate people engage in self-evaluation less than people who are low in self-compassion, or whether they self-evaluate just as frequently, but maintain a positive view of themselves. Exploring how self-compassionate people negotiate self-evaluation may be evidenced through looking at people who are simultaneously high in self-compassion and self-esteem or high on one and low on the other, or low on both. Leary and colleagues (2007) touched on this interaction and found that self-compassion moderated reactions to negative feedback depending upon whether participants were high or low in self-esteem. After receiving negative feedback on personal attributes, such as being socially unskilled, participants rated their reactions to the feedback. Participants who were low in self-esteem and self-compassion had the most negative reactions to their feedback, however,

participants low in self-esteem and high in self-compassion were less upset. Therefore, self-compassion may be particularly useful for people with low self-esteem if it is related to lower negative affect. Regardless of the role of self-evaluation in self-compassion, self-compassion appears to be best used against negative attitudes and behaviours.

Leary et al. (2007) suggested that self-compassion may buffer people against the impact of negative attitudes and behaviours for three reasons. First, people who are self-compassionate may be more realistic in their self-evaluations. Self-kindness, common humanity, and mindfulness are suggested to result in less self-evaluation, and as a consequence, self-compassionate people are less tainted by catastrophizing self-criticism or defensive self-enhancement. Second, self-compassion may buffer people against negative life events because self-compassion is associated with lower reactivity to events. Self-compassionate people respond to themselves in a kind and understanding manner in both positive and negative situations. On the other hand, people low in self-compassion primarily only feel good about themselves when things are going well. Finally, self-compassion may protect people from negative outcomes in the exercise domain because people high in self-compassion may conceptualize about negative events in ways that reduce their impact (Leary et al., 2007).

Although research such as Leary and colleagues' (2007) is finding that self-compassion may buffer people against the impact of negative attitudes and behaviours, it is still not clear what 'negative attitudes and behaviours' are. Recent literature has identified self-compassion as being related to, best used, or emerging in times of 'instances of pain or failure' (Neff et al., 2005), 'negative life events' (Leary et al., 2007), or 'hardship or perceived inadequacy' (Neff et al., 2007). Neff (2003b) defines self-compassion as "being kind to oneself in instances of pain or failure; perceiving one's

experiences as part of the larger human experience; and holding painful thoughts and feelings in balanced awareness” (p. 223); however, in her definition, Neff is not specific what instances of pain or failure are. Leary et al. (2007) found self-compassion emerged during negative life events such as asking people to report the worst things that happened to them over a 20-day period, reporting their emotional reactions to hypothetical events (such as being responsible for losing an athletic competition for their team), or reacting to interpersonal feedback (such as being socially skilled or socially unskilled). In the present study, self-compassion was found to emerge when people reported introjected motives, ego goals, social physique anxiety, or, obligatory exercise. The outcomes that self-compassion was related to in the present study may not be considered ‘instances of pain or failure’ because introjected motivation and ego goals for example can be highly productive. Nonetheless, research has shown that introjected motivation, ego goals, social physique anxiety, and obligatory exercise are linked to less well-being (Ackard, Brehm, & Steffen, 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000). Due to the many ways that ‘instances of pain or failure’ have emerged in self-compassion, this speaks to the complexity of self-compassion, but also the need for Neff to incorporate a definition of ‘instances of pain or failure’ for self-compassion.

CHAPTER 4

4.1 SUMMARY AND CONCLUSIONS

In conclusion, this study showed that self-compassion is a potentially important construct for the exercise domain, providing support for Neff's (2003a) conceptualization of a healthy alternative to self-esteem. Results showed that self-compassion was related to intrinsic, external, and introjected motivation, ego goals, social physique anxiety, and obligatory exercise. In addition, self-compassion explained unique variance beyond self-esteem on introjected motivation, ego goals, social physique anxiety, and obligatory exercise.

This study makes three main contributions to the literature. The first contribution is the relationships between self-compassion and the outcomes in this study. Self-compassion has not been previously investigated in the exercise domain. Because self-compassion was related to exercise outcomes, these relationships show that self-compassion may be a promising construct for the exercise domain that warrants further research attention. Second, self-compassion was found to explain unique variance beyond self-esteem on outcomes of exercise. These results are important because they show that self-compassion is different from, and useful beyond, self-esteem. In addition, this pattern of results showed that self-compassion may be best used as a way to understand negative attitudes and behaviours. Neff et al. (2005) and Leary et al. (2007) suggested that high self-compassion may be more useful than high self-esteem in negative life situations, which was a trend supported in the current study. The final main

contribution of this research is that self-compassion may be practically extended to women's exercise behaviour. The results of this study showed that those with a self-compassionate attitude reported fewer evaluative outcomes and less introjected motivation. This suggests that self-compassion may help women focus on self-accepting reasons to stay motivated to exercise. Thus, the basis for true well-being in the exercise domain may require stepping outside of self-esteem and embracing self-compassion.

4.2 STRENGTHS AND LIMITATIONS

This study had several strengths that contributed to the richness of data obtained. A strength of this study was its sample size. Similar research studies indicated that 100-150 participants were appropriate (Lewis & Neighbors, 2005; Patrick, Neighbors, & Knee, 2004; Wilson & Rodgers, 2002); however, this study had 252 participants. Larger participant numbers contribute to increased power. Greater power is a strength because it often results in a greater chance to detect differences or relations within the sample when they exist (Vincent, 2005).

A second strength of this study is the theoretical contribution of the links made between the variables. Self-compassion, self-determined motives, goal orientations, social physique anxiety, and obligatory exercise were all found to have relationships with self-compassion. As a result of these relationships, researchers can explore how self-compassion may be linked to other attitudes or behaviours. These links also emphasize the differences amongst variables when the concept of the self is approached with an attitude of kindness, rather than self-evaluation. Further, the present study highlights the theoretical subtleties among self-compassion and self-esteem. Self-compassion may be useful beyond self-esteem, especially in certain circumstances; however, researchers must tease out how self-compassion is best used.

One of the main limitations of this study is the ability of this research to determine a cause-and-effect relationship among the variables in this study. Correlation and regression analysis were performed as a necessary first steps to establish self-compassion as relevant to the exercise domain. However, the results only show that self-compassion is related to motives, goals, physique anxiety, and obligatory exercise behaviour in the exercise domain. Determining a cause-and-effect relationship among self-compassion and variables in this study would strengthen the evidence and understanding of self-compassion, as well as indicate whether self-compassion may point the way to promoting healthier and more long-term motivations to exercise.

Another main limitation of this study is the generalizability of the results. The participants of this study included mainly white, young, female university students. Self-compassion may also be beneficial to men, people with different sociocultural backgrounds and ages, and to community samples. The results of this study are only generalizable to participants similar to those that participated in this study.

4.3 RECOMMENDATIONS FOR FUTURE RESEARCH

There are several recommendations for future research. First, it is recommended that correlations between self-compassion and other outcomes variables in the exercise domain be examined. For example, Neff, Kirkpatrick, and Rude (2007) found self-compassion to buffer against anxiety when faced with an ego threat. It may be useful for researchers for example, to examine whether self-compassion could buffer against anxiety during sport competitions. Discovering which variables self-compassion is related to, or not related to, will provide a clearer picture as to how self-compassion contributes to physical activity. Further, examining exercise outcomes with alternate exercise populations may be beneficial. For example, self-compassion may be relevant to

encourage participation and enjoyment in activity and sport for children and older adults. Second, future research should explore the capacity of self-compassion and self-esteem to influence the motivational continuum of self-determined motives to exercise. This study found that self-compassion was only minimally related to motives to exercise. More research is needed to identify conditions that foster versus undermine ultimate health and well-being. Research examining the role of self-compassion and self-esteem on motives to exercise has theoretical and practical significance because it can contribute to knowledge of human behaviour, and to aid in the optimization of environments that inspire human development (Ryan & Brown, 2002). In addition to identifying conditions that foster human potential, theories such self-determination and self-compassion should define what is meant by striving for ultimate health and well-being. Self-determination and self-compassion both strive for optimum health; however, optimum health is not been well defined. Neff (2003a) suggests that psychological health does not involve aggression, violence, or depression for example; however, Neff does not offer what optimum health might be in self-compassion. In self-determination, optimal health is suggested not to involve a contingent, unstable, or a vulnerable self, yet optimal health has to still be defined. If health is what people who are self-compassionate are striving for, and acknowledging their limitations is an essential aspect of common humanity, then what is meant by health should be definite so people know what they are striving for, and if they have reached a healthy self.

The third recommendation of future research is investigate the emotional element of obligatory exercise. Obligatory exercise has recently been recommended to be investigated as a multidimensional concept rather than a unidimensional concept (Steffen & Brehm, 1999). A multidimensional view of obligatory exercise behaviour was

recommended to prevent obligatory exercise being defined solely by the amount and intensity of exercise activity without regarding the personal and psychological meaning of obligatory exercise. Then intent of this study was not to look specifically at the sub domains of obligatory exercise, however, as can be seen in Appendix J, the emotional sub domain of obligatory exercise was the highest related sub domain of obligatory exercise behaviour with self-compassion and self-esteem. Stronger relationships to self-compassion and self-esteem suggest that the emotional sub domain of obligatory exercise may be a distinguishing factor of exercise as being mildly obsessive to exercise being dangerous to one's health (Steffen & Brehm (1999).

Fourth, future research should engage in experimental research studies. To date, most research on self-compassion is correlational (Leary et al., 2007; Neff et al., 2007). Experimental designs (i.e., comparing outcomes for a randomly assigned experimental group with those of a control group) should be used to gain support for the possible link between self-compassion and exercise. For example, Leary et al's. (2007) study could be replicated in the exercise domain to determine if self-compassionate individuals respond differently to negative feedback compared to individuals high in self-esteem. After taking part in an exercise class, exercisers in the manipulation group could receive negative feedback from an observer about their performance, where the exercisers in the control group could receive no feedback. This type of study would provide evidence to support or dispute the correlational evidence in the current study that self-compassionate exercisers may respond more favorably to negative life events than exercisers low in self-compassion.

A fifth recommendation for future research is to explore the role of coping in the Self-Compassion Scale. A trend is emerging in the self-compassion literature where self-

compassion is suggested to be more of a coping strategy than a trait, as it was once conceptualized by Neff (2003a). However, it may also be the case that the nature of the Self-Compassion Scale is specifically tap into coping, resulting in self-compassion being related to, and found specifically useful in times of ‘ pain and failure’. For example, the stem of the Self-Compassion Scale (Neff, 2003b) reads “How I typically act towards myself in difficult times.” If participants are answering questions about themselves in the context of ‘difficult times’, then it is possible that the questions are being answered in the context of coping. While self-compassion may involve a component of coping, self-compassion may not be exclusively coping; rather self-compassion, in addition to coping, may also be an alternative positive view of the self that is possibly being measured primarily in the context of coping.

The final recommendation for future research is to examine the meaningfulness of the results of this study. The results suggest unique relationships between self-compassion, motivation, goal orientation, social physique anxiety, and obligatory exercise, but those relationships explain a limited portion of variance. Correlation analyses of all of the variables ranged from the weakest at $r = .19$, to the strongest correlation at $r = -.57$. A single construct, such as self-compassion, may not be able to account for a large portion of the variance in these variables because of their multidimensionality, thus, the significance of the reported relations and the direction of the relations may be more important than their strength. However, the meaningfulness of the strengths of these relationships between self-compassion and the variables remains unknown. Future research should continue to examine the link between self-compassion and the exercise domain as the differences between the variables in this study may be replicated over time and emerge as significant factors of the exercise domain. In

conclusion, understanding self-compassion may point the way to promoting healthier and more long-term motivations in the exercise domain.

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APPENDICES

APPENDIX A

Demographic Questionnaire

Demographic Questionnaire

- 1) Age: _____
- 2) Height: _____
- 3) Weight: _____
- 4) **Sociocultural Information:**

How would you describe yourself? You may mark more than one or specify, if applicable.

___ White

___ Aboriginal

___ Chinese

___ South Asian (*e.g., East Indian, Pakistani, Sri Lankan, etc.*)

___ Black

___ Filipino

___ Latin American

___ Southeast Asian (*e.g., Vietnamese, Cambodian, Malaysian, etc.*)

___ Arab

___ West Asian (*e.g., Iranian, Afghan, etc.*)

___ Korean

___ Japanese

___ Other - Specify _____

Demographic Questionnaire (continued)

5) Exercise Behaviour:

***Exercise is defined as activities to gain, maintain, or improve fitness.**

Please circle one answer that is closest to your actual exercise behaviour.

a) When exercising, on average how long does each exercise session last?

30 minutes 60 minutes 90 minutes 120 minutes or more

b) On average, how many days per week do you exercise?

3 days 4 days 5 days 6 or more days

c) How long have you been exercising at least 3 days per week, for at least 30 minutes per session?

3 weeks 6 weeks 1 year 2 years or more

APPENDIX B

Behaviour Regulation in Exercise Questionnaire (BREQ)

Behavioural Regulation in Exercise Questionnaire (BREQ;Wilson et al.,

2006)

Why do you exercise? The following list identifies reasons why people exercise. Please indicate on the scale provided how true each statement is for YOU with (0) = Not true for me and (4) = Very true for me.

		Not true for me		Sometimes true for me		Very true for me
1	I exercise because other people say I should	0	1	2	3	4
2	I feel guilty when I don't exercise	0	1	2	3	4
3	I value the benefits of exercise	0	1	2	3	4
4	I exercise because it's fun	0	1	2	3	4
5	I exercise because it is consistent with my life goals	0	1	2	3	4
6	I take part in exercise because my friends/family/partner say I should	0	1	2	3	4
7	I feel ashamed when I miss an exercise session	0	1	2	3	4
8	It's important to me to exercise regularly	0	1	2	3	4
9	I consider exercise to be apart of my identity	0	1	2	3	4
10	I enjoy my exercise sessions	0	1	2	3	4
11	I exercise because others will not be pleased with me if I don't	0	1	2	3	4
12	I exercise because it is a fundamental part of me	0	1	2	3	4
13	I feel like a failure when I haven't exercised in a while	0	1	2	3	4
14	I think it is important to make the effort to exercise regularly	0	1	2	3	4

Behavioural Regulation in Exercise Questionnaire (continued)

		Not true for me		Sometimes true for me		Very true for me
15	I find exercise a pleasurable activity	0	1	2	3	4
16	I feel under pressure from my friends/family to exercise	0	1	2	3	4
17	I get restless if I don't exercise regularly	0	1	2	3	4
18	I get pleasure and satisfaction from participating in exercise	0	1	2	3	4
19	I exercise because it is consistent with my values	0	1	2	3	4

APPENDIX C

Rosenberg Self-Esteem Scale (RSES)

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

- | | | | | |
|-------------------------------------------------------------------------------|----|---|---|----|
| 1. On the whole, I am satisfied with myself. | SA | A | D | SD |
| 2. At times, I think I am no good at all. | SA | A | D | SD |
| 3. I feel that I have a number of good qualities. | SA | A | D | SD |
| 4. I am able to do things as well as most other people. | SA | A | D | SD |
| 5. I feel I do not have much to be proud of. | SA | A | D | SD |
| 6. I certainly feel useless at times. | SA | A | D | SD |
| 7. I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD |
| 8. I wish I could have more respect for myself. | SA | A | D | SD |
| 9. All in all, I am inclined to feel that I am a failure. | SA | A | D | SD |
| 10. I take a positive attitude toward myself. | SA | A | D | SD |

APPENDIX D

Self-Compassion Scale (SCS)

Self-Compassion Scale (SCS; Neff, 2003b)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

- _____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.
- _____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.
- _____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.
- _____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.
- _____ 5. I try to be loving towards myself when I'm feeling emotional pain.
- _____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.
- _____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.
- _____ 8. When times are really difficult, I tend to be tough on myself.
- _____ 9. When something upsets me I try to keep my emotions in balance.
- _____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.
- _____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.
- _____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

Self-Compassion Scale (continued)

**Almost
never
1**

2

3

4

**Almost
always
5**

- _____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.
- _____ 14. When something painful happens I try to take a balanced view of the situation.
- _____ 15. I try to see my failings as part of the human condition.
- _____ 16. When I see aspects of myself that I don't like, I get down on myself.
- _____ 17. When I fail at something important to me I try to keep things in perspective.
- _____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.
- _____ 19. I'm kind to myself when I'm experiencing suffering.
- _____ 20. When something upsets me I get carried away with my feelings.
- _____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.
- _____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.
- _____ 23. I'm tolerant of my own flaws and inadequacies.
- _____ 24. When something painful happens I tend to blow the incident out of proportion.
- _____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.
- _____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

APPENDIX E

Goal Orientations in Exercise Measure (GOEM)

Goal Orientations in Exercise Measure (GOEM; Petherick & Markland,

2005)

Using the scales below, please indicate the extent to which you disagree or agree with each of the statements. Please note that there are no right or wrong answers and no trick questions. We simply want to know how you personally feel about exercise.

In my physical activity, I would feel / do feel that things go well when...

	Strongly disagree			Strongly agree	
1 I exercise to the best of my ability	1	2	3	4	5
2 Other exercisers don't do as well as me	1	2	3	4	5
3 I make progress	1	2	3	4	5
4 I achieve the exercise goal I set for myself	1	2	3	4	5
5 I can show other exercisers that I'm better than everyone else	1	2	3	4	5
6 I feel like I've improved	1	2	3	4	5
7 I prove to myself that I am the only one who can do a certain exercise task	1	2	3	4	5
8 I know that I am more capable than other exercisers	1	2	3	4	5
9 I exercise at a level that reflects personal improvement	1	2	3	4	5
10 I can prove to others that I'm the best	1	2	3	4	5

APPENDIX F

Social Physique Anxiety Scale (SPAS)

Social Physique Anxiety Scale (SPAS; Martin et al., 1997)

The following questionnaire contains statements concerning your body physique or figure. By physique or figure we mean your body's form and structure; specifically, body fat, muscular tone, and general body proportions.

Instructions: Read each item carefully and indicate how characteristic it is of you according to the following scale.

- 1 = Not at all characteristic of me**
- 2 = Slightly characteristic of me**
- 3 = Moderately characteristic of me**
- 4 = Very characteristic of me**
- 5 = Extremely characteristic of me**

- _____ 1. I wish I wasn't so up-tight about my physique or figure.
- _____ 2. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.
- _____ 3. Unattractive features of my physique or figure make me nervous in certain social settings.
- _____ 4. In the presence of others, I feel apprehensive about my physique or figure.
- _____ 5. I am comfortable with how fit my body appears to others.
- _____ 6. It would make me uncomfortable to know others were evaluating my physique or figure.
- _____ 7. When it comes to displaying my physique or figure to others, I am a shy person.
- _____ 8. I usually feel relaxed when it's obvious that others are looking at my physique or figure.
- _____ 9. When in a bathing suit, I often feel nervous about how well proportioned my body is.

APPENDIX F

Obligatory Exercise Questionnaire (OEQ)

Obligatory Exercise Questionnaire (OEQ; Pasman & Thompson, 1998)

Directions: Listed below are a series of statements about people's exercise habits. Please circle the number that reflects how often you could make the following statements:

1 – NEVER 2 – SOMETIMES 3 – USUALLY 4 – ALWAYS

- | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| 1. I engage in physical exercise on a daily basis. | 1 | 2 | 3 | 4 |
| 2. I engage in one/more of the following forms of exercise: walking, jogging/running or weightlifting. | 1 | 2 | 3 | 4 |
| 3. I exercise more than three days per week. | 1 | 2 | 3 | 4 |
| 4. When I don't exercise I feel guilty. | 1 | 2 | 3 | 4 |
| 5. I sometimes feel like I don't want to exercise, but I go ahead and push myself anyway. | 1 | 2 | 3 | 4 |
| 6. My best friend likes to exercise. | 1 | 2 | 3 | 4 |
| 7. When I miss an exercise session, I feel concerned about my body possibly getting out of shape. | 1 | 2 | 3 | 4 |
| 8. If I have planned to exercise at a particular time and something unexpected comes up (like an old friend comes to visit or I have some work to do that needs immediate attention) I will usually skip my exercise for that day. | 1 | 2 | 3 | 4 |
| 9. If I miss a planned workout, I attempt to make up for it the next day. | 1 | 2 | 3 | 4 |
| 10. I may miss a day of exercise for no good reason. | 1 | 2 | 3 | 4 |
| 11. Sometimes, I feel a need to exercise twice in one day, even though I may feel a little tired. | 1 | 2 | 3 | 4 |
| 12. If I feel I have overeaten, I will try to make up for it by increasing the amount I exercise. | 1 | 2 | 3 | 4 |
| 13. When I miss a scheduled exercise session I may feel tense, irritable or depressed. | 1 | 2 | 3 | 4 |
| 14. Sometimes, I find that my mind wanders to thoughts about exercising. | 1 | 2 | 3 | 4 |

Obligatory Exercise Questionnaire (continued)

1 – NEVER 2 – SOMETIMES 3 – USUALLY 4 – ALWAYS

- | | | | | |
|-----------------------------------------------------------------------------------------------------|---|---|---|---|
| 15. I have had daydreams about exercising. | 1 | 2 | 3 | 4 |
| 16. I keep a record of my exercise performance, such as how long I work out, how far or fast I run. | 1 | 2 | 3 | 4 |
| 17. I have experienced a feeling of euphoria or a “high” during or after an exercise session. | 1 | 2 | 3 | 4 |
| 18. I frequently “push myself to the limits.” | 1 | 2 | 3 | 4 |
| 19. I have exercised when advised against such activity (i.e. by a doctor, friend, etc.) | 1 | 2 | 3 | 4 |
| 20. I will engage in other forms of exercise if I am unable to engage in my usual form of exercise. | 1 | 2 | 3 | 4 |

APPENDIX H

Godin Leisure Time in Exercise Questionnaire (LTEQ)

Godin Leisure Time in Exercise Questionnaire (LTEQ; Godin & Shephard, 1985)

1. During a typical **7-Day period** (a week), how many times on the average do you do the following kinds of exercise for **more than 15 minutes** during your free time (write on each line the appropriate number).

Times Per Week

a) STRENUOUS EXERCISE

(HEART BEATS RAPIDLY) _____

(e.g., running, jogging, hockey, football, soccer, squash, basketball, cross country skiing, judo, roller skating, vigorous swimming, vigorous long distance bicycling)

b) MODERATE EXERCISE

(NOT EXHAUSTING) _____

(e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, alpine skiing, popular and folk dancing)

c) MILD EXERCISE

(MINIMAL EFFORT) _____

(e.g., yoga, archery, fishing from river bank, bowling, horseshoes, golf, snow-mobiling, easy walking)

2. During a typical **7-Day period** (a week), in your leisure time, how often do you engage in any regular activity **long enough to work up a sweat** (heart beats rapidly)?

OFTEN

1. □

SOMETIMES

2. □

NEVER/RARELY

3. □

APPENDIX I

Consent Form

Consent form

You are invited to participate in a study entitled '*Exploring the Relationship Between Self-Compassion, Self-Esteem, and Self-Determined Motives to Exercise in Young Adult Women*'. Please read this form carefully. Feel free to call or email the researchers with any of the questions you might have.

Researchers:

Dr. Kent Kowalski
Associate Professor
University of Saskatchewan
College of Kinesiology
(306) 966-1079
kent.kowalski@usask.ca

Cathy Magnus
M.Sc. candidate
University of Saskatchewan
College of Kinesiology
(306) 955-4100
cmm168@mail.usask.ca

Purpose and Procedure: The intent of this study is to explore whether an attitude of kindness towards the self, as opposed to an attitude of evaluation towards the self, fosters more long-term and positive forms of motivation to exercise with young adult women. Further, this study attempts to explore whether an attitude of kindness towards the self will be related to more positive goal making, less body anxiety, and more healthy exercise behaviours. If you agree to participate, you will be asked to fill out a survey on the internet that will take approximately 15-20 minutes to complete. Your confidentiality is assured because your name will not be asked on the survey and only the researchers listed above will see the completed surveys. You also have the right to not answer any question(s) on the survey and to withdraw from the study at anytime without consequence.

Potential Risks: There are no known risks to participate in this study.

Potential Benefits: The potential benefits of the research include an opportunity to contribute to exploring women's exercise motivation, and an opportunity to explore one's personal exercise motivation. Please note that there is no guarantee that you will benefit directly from participating in this study

Storage of Data: All data obtained from the surveys will be securely stored in a locked cabinet at the University of Saskatchewan. Data is stored for a minimum of five years upon the completion of the study by the research supervisor.

Confidentiality: You will not be asked to provide your name on the survey. At the completion of the survey you will no longer be contacted, and your email address will be destroyed and the researchers will no longer have any record of your address. Data from the study will be used in a Master of Science thesis document, and may be published in academic journals and/or presented at conferences. The data from this study will be reported in aggregate form to protect the confidentiality of participant responses. Only the research team will have access to the data.

Right to Withdraw: Your participation is voluntary, and you may withdraw from the study for any reason, at any time, without penalty of any sort. If you withdraw from the study at any time, any data that you have contributed will be destroyed at your request. When completing the survey, participants can refuse to answer individual questions.

Questions: If you have any questions concerning this study, please feel free to call or email the researchers at the numbers provided above. You are also free to contact the researchers if you have questions at a later time. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on September 26, 2006. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office in the Office of the Vice President Research (306-966-2975). Out of town participants may call collect. Participants may find out about the results of the study upon request by contacting the student researcher. Participants may have access to results three months after the completion of their survey.

Consent to Participate: I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. By completing this survey online via the internet, I am consenting to participate in the study.

APPENDIX J

Correlation Table Including Subscales

Pearson Correlations Between SCS, BREQ, RSES, GOEM, SPAS and OEQ

Variable	1a.	1b.	1c.	1d.	1e.	1f.	1g.	2a.	2b.	2c.	2d.	2e.	3	4a.	4b.	5	6a.	6b.	6c.	6d.
1a.SCS	1																			
1b.Kindness	0.84*	---																		
1c.Judgment	0.86*	0.68*	---																	
1d.Humanity	0.68*	0.62*	0.38*	---																
1e.Isolation	0.80*	0.52*	0.73*	0.39*	---															
1f.Mindful	0.76*	0.65*	0.50*	0.60*	0.45*	---														
1g.Over-identified	0.81*	0.54*	0.71*	0.35*	0.67*	0.54*	---													
BREQ																				
2a.External	-0.24*	-0.17*	-0.28*	-0.08	-0.26*	-0.10	-0.19*	---												
2b.Introjected	-0.41*	-0.33*	-0.58*	-0.19*	-0.34*	-0.25*	-0.31*	0.36*	---											
2c.Identified	0.01	0.01	-0.07	0.06	0.01	0.05	0.02	-0.10	0.33*	---										
2d.Integrated	0.11	0.09	-0.01	0.12	0.09	0.17*	0.13*	-0.12	0.29*	0.63*	---									
2e.Intrinsic	0.19*	0.18*	0.10	0.14*	0.15*	0.17*	0.17*	-0.21*	0.03	0.50*	0.54*	---								
3.RSES	0.71*	0.62*	0.67*	0.43*	0.59*	0.50*	0.53*	-0.32*	-0.40*	0.08	0.14*	0.20*	---							
GOEM																				
4a.Task	0.12	0.12*	0.07	0.07	0.07	0.15*	0.10	-0.20*	0.03	0.32*	0.27*	0.30*	0.19*	---						
4b.Ego	-0.20*	-0.14*	-0.17*	-0.13*	-0.24*	-0.10	-0.16*	0.06	0.31*	0.11	0.25*	0.10	-0.11	0.17*	---					
5.SPAS	-0.57*	-0.48*	-0.61*	-0.30*	-0.44*	-0.39*	-0.43*	0.30*	0.43*	0.01	-0.09	-0.20*	-0.60*	-0.09	0.04	---				
6a.OEQ	-0.24*	-0.20*	-0.32*	-0.16*	-0.19*	-0.13*	-0.11	0.07	0.55*	0.57*	0.54*	0.32*	-0.21*	0.22*	0.39*	0.27*	---			
6b.Emotional	-0.38*	-0.33*	-0.48*	-0.20*	-0.31*	-0.20*	-0.25*	0.19*	0.70*	0.40*	0.27*	0.06	-0.41*	0.01	0.28*	0.45*	0.77*	---		
6c.Frequency	-0.11	-0.08	-0.15*	-0.11	-0.10	-0.08	-0.01	-0.01	0.31*	0.48*	0.50*	0.36*	-0.05	0.30*	0.32*	0.12	0.77*	0.40*	---	
6d.Preoccupation	-0.16*	-0.10	-0.21*	-0.11	-0.15*	-0.06	-0.12	0.08	0.35*	0.29*	0.34*	0.20*	-0.06	0.13*	0.27*	0.12	0.64*	0.44*	0.37*	---

* $p < .05$ (two-tailed significance)

APPENDIX K

Regression Analyses for Identified and Integrated Motivation and Task Goals

Summary of Hierarchical Regression Analysis of Identified Motivation

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	.009	.007	.081	.007	.007
Step 2 RSES	.016	.010	.143		
SCS	-.071	.071	-.088	.010	.004

Summary of Hierarchical Regression Analysis of Integrated Motivation

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	.028	.012	.141*	.020*	.020*
Step 2 RSES	.024	.017	.122		
SCS	.039	.123	.028	.020	.099

Summary of Hierarchical Regression Analysis of Task Goal Orientation

Predictor Variable	B	SE B	β	R ²	ΔR^2
Step 1 RSES	.025	.008	.187*	.035*	.035*
Step 2 RSES	.028	.012	.205*		
SCS	-.025	.085	-.026	.035	.000

$p < .05$ (two-tailed significance)

APPENDIX L

Ethics Approval

Certificate of Approval

PRINCIPAL INVESTIGATOR
Kent C. Kowalski

DEPARTMENT
Kinesiology

BEH#
06-240

STUDENT RESEARCHERS
Cathy Magnus

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED (STUDY SITE)
University of Saskatchewan

Saskatoon SK

SPONSOR
UNFUNDED

TITLE
Exploring the Relationships Among Self-Compassion, Self-Esteem, and Self Determined Motives to Exercise in Young Adult Women

CURRENT APPROVAL DATE
26-Sep-2006

CURRENT RENEWAL DATE
25-Sep-2007

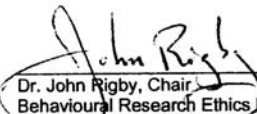
The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for further instructions: <http://www.usask.ca/research/ethical.shtml>

APPROVED


Dr. John Rigby, Chair
Behavioural Research Ethics Board
University of Saskatchewan

Please send all correspondence to:

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Saskatoon SK S7N 5C8
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