

The Role of Self-compassion in Women's Self-determined Motives to Exercise and Exercise-related Outcomes

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Self-compassion is emerging in the literature as a healthy conceptualization of the self (Neff, 2003a). This study explored how self-compassion is related to, and explains unique variance beyond self-esteem on, women's motives to exercise and exercise-related outcomes. Participants were 252 women exercisers. Self-compassion was positively related to intrinsic motivation and negatively related to external and introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise behavior. Hierarchical regression analysis showed that self-compassion contributed unique variance beyond self-esteem on introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise. This study provides evidence that self-compassion is related to well-being in the exercise context, raising the possibility that the development of self-compassion may be important for women who exercise.

Keywords: Self-compassion; Self-esteem; Exercise; Motivation; Women.

Although exercise has many recognized benefits, it can present unique challenges to women in the development of healthy perspectives of the self (Davis, Kennedy, Ralevski, & Dionne, 1994). First, women in Western society are bombarded with pressures to emulate the thin ideal female form (Fox, 1997). An attempt to align with this thin ideal is one of the principal reasons reported for exercising, especially among women (Markland & Hardy, 1993; McDonald & Thompson, 1992). While these types of social evaluations might act as the impetus for many women to

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increase their exercise levels, precarious motives to exercise that are based on striving to attain the thin ideal are more likely to be ineffective over time (Frederick & Ryan, 1993; Ingledeew, Markland, & Medley 1998; Tiggemann & Williamson, 2000). Second, exercise is often done in a social context, such as at a gym or community center, which has the potential to further encourage negative evaluations of the body (Sabiston, Crocker, & Munroe-Chandler, 2005). As a result, exploring ways to promote healthy perspectives of the self in the exercise domain is critical to improving women's exercise experience and psychological well-being.

There is a long history of theory and research linking self-esteem, which stems from evaluations of self-worth (Neff, 2003a), and exercise. There are many documented benefits of self-esteem such as emotional stability, happiness, independence, leadership, adaptability, and resilience to stress (Diener, 1984; Pyszczynski, Greenberg, & Goldenberg, 2003; Sonstroem, 1997; Wylie, 1989). Recently, a meta-analysis of 113 studies on the effects of exercise on global self-esteem showed that exercise participation leads to small, but significant increases in global self-esteem (Spence, McGannon, & Poon, 2005). However, despite its many benefits, a potential limitation in focusing solely on self-esteem as a way to develop a healthy perspective of the self is that the self-esteeming process involves evaluation of self-worth in relation to others (Aspinwall & Taylor, 1993; Beach & Tesser, 1995; Buunk, 1998; Deci & Ryan, 1995; Neff, 2003a; Suls & Wills, 1991). Of course, self-esteem development is and will continue to be important. However, the focus on self-evaluation as a way to gain self-worth may be a particularly tenuous prospect in the exercise domain, where women are often motivated to exercise precisely in an attempt to attain an external standard that might be unrealistic. This type of concern is demonstrated by Wilson and Rodgers (2002), who found that female exercise participants who felt compelled to exercise by conforming to societal pressures or constraints were unlikely to develop long-term adaptive motivational patterns and overall self-worth.

Self-esteem has also been shown 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, 2003b). Neff (2004) explained that self-worth contingent on how the self is different from others is potentially problematic since it is impossible for more than a few to feel good about themselves by standing out or being exceptional. Further, attempts to maintain self-esteem can lead to self-absorption and a lack of concern for others (Baumeister et al., 2000), a notion supported by the finding that high self-esteem is sometimes associated with putting others down to feel better about oneself (Feather, 1994). Considering the limitations in self-esteem, Pyszczynski, Greenberg, Solomon, Arndt, and Schimel (2004) suggested that the pursuit of self-esteem is neither a good thing nor a bad thing, but rather a way to regulate behavior and cope with life events. Thus, based on these apparent limitations to self-esteem, perhaps there are ways for women to manage self-evaluations in the exercise domain that complement self-esteem in the maintenance and/or development of a healthy perspective of the self.

Neff (2003a) suggested self-compassion as one such conceptualization of the self. 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, 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; and this acceptance provides the emotional safety to clearly identify areas for change and growth. 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 come with being self-compassionate, self-compassion is suggested to be highly stable: One is always a human being worthy of compassion. Also, it has been suggested that 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).

The three dimensions of self-compassion that have been identified by Neff (2003a) are self-kindness, common humanity, and mindfulness. The first dimension, self-kindness, is the extending of kindness and understanding to oneself rather than harsh judgment 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. The second dimension, 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 judgment of the self, where one's limitations are acknowledged. The final dimension 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. In sum, these three components of self-compassion all work together to foster a genuine desire for well-being (Neff, 2003a).

Neff and colleagues (Neff, 2003a, 2009; Neff, Hsieh, & Dejitterat, 2005; Neff, Kirkpatrick, & Rude, 2007a; Neff, Rude, & Kirkpatrick, 2007b) often conceptualize self-compassion as an alternative to self-esteem, and they typically compare and contrast self-compassion and self-esteem. However, they also acknowledge that these constructs share many of the same benefits, including positivity towards the self. As a result, self-compassion and self-esteem are typically positively correlated (e.g., Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003b, 2009) and might best be viewed as complementary to one another, each with its own strengths and limitations as a personal resource. As well, self-compassion and self-esteem are related in similar ways to various aspects of psychological functioning, such as life satisfaction, elements of a meaningful life, happiness, optimism, personal initiative, and positive affect (Neff, 2003a, 2009; Neff et al., 2007a, 2007b). In addition, Leary et al. (2007) showed that people who reported the most negative self-feelings were those low in both self-esteem and self-compassion.

While self-esteem and self-compassion share many of the same benefits, the main distinction is that for self-compassion, self-worth is not contingent upon performance evaluations of the self in comparison with others (Neff et al., 2007a). Neff (2009) stated that self-compassion and self-esteem are different in that "Whereas high self-esteem depends on successful performances and positive self-evaluations, self-compassion is relevant precisely when self-esteem tends to falter—when one fails or feels inadequate" (p. 567). This claim is echoed by Neff and Vonk (2009) who suggested that self-compassion might be particularly useful when feelings of inadequacy arise. Thus, even though self-evaluation might still occur,

self-compassion could allow people to maintain a positive view of themselves despite their shortcomings (Leary et al., 2007). What is left after accounting for self-esteem are the warm feelings associated with an inclusive, open-hearted acceptance of oneself without judgment or evaluation (Neff, 2009). Gilbert and Irons (2005) suggested that self-compassion might specifically be linked to a sense of calm security. Research has shown that there are benefits of self-compassion over and above self-esteem across a number of variables. For example, Neff and Vonk (2009) found that self-compassion predicts significant additional variance beyond self-esteem (in the negative direction) on self-esteem instability, self-worth contingency, social comparison, public self-consciousness, self-rumination, anger, and need for cognitive disclosure.

The promotion of self-compassion beyond self-esteem seems particularly relevant to the exercise domain, which is ripe with the potential for self-evaluation and social comparison. However, despite the proposed theoretical importance of self-compassion, it has not been explored in the exercise domain to date. Hence, in the present investigation we explored the relations among self-compassion, self-esteem, women's self-determined motives to exercise, and exercise-related outcomes. A review of women's physical activity behavior (Landry & Solmon, 2002) recommended self-determination theory as an effective framework to investigate motivation to exercise. Self-determination theory identifies several distinct types of motivation including external, introjected, identified, integrated, and intrinsic motivation, each of which has specific consequences for well-being and performance (Ryan & Deci, 2000). These different types of motivations, or behavioral regulations, comprise a self-determination continuum. This continuum ranges from controlled or extrinsic motivations (i.e., external and introjected), which are behaviors pressured and coerced by environmental and intrapsychic forces, to autonomous or self-determined motivations (i.e., identified, integrated, and intrinsic), which are behaviors 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). There are similarities between the self-compassion literature and the self-determination literature suggesting that individuals who are self-compassionate will be more prone to autonomous motivation in the exercise domain (Neff, 2003b). However, this specific relationship within the exercise domain has not been examined to date.

We suggest five conceptual rationales to support the contention that feelings of self-compassion (or a lack of self-compassion) towards the self may impact motivational process. First, self-determination and self-compassion give rise to proactive behaviors aimed at promoting or enhancing well-being; as well, both theoretical frameworks acknowledge the importance of others (either as relatedness or common humanity) in achieving well-being. Second, in the self-compassion and self-determination literatures, self-esteem is criticized because of its emphasis on outward comparisons to others. Third, self-compassion and self-determination reflect unconditional worth and love, where successes and failures do not implicate self-worth. Fourth, self-determination and self-compassion highlight the importance of mindfulness as a basis for well-being. Fifth, Neff et al. (2005) have shown that self-compassion is associated with intrinsic motivation in an academic setting.

Self-compassion was also expected to be related to three additional exercise-related outcomes relevant to women: goal orientation (task and ego goal orientation), social physique anxiety, and obligatory exercise. Task goal orientation

is characterized by a desire to develop new skills, master tasks, and view mistakes as part of learning (Nicholls, 1984). Task goal orientation was expected to be positively related to self-compassion because task goal orientation is characterized by demonstrating competence with reference to the self and has been shown to be related to intrinsic motivation in an academic setting (Neff et al., 2005). Alternatively, ego goal orientation was expected to be negatively related to self-compassion because ego goal orientation is characterized by demonstrating competence with reference to others or avoiding failure or feelings of incompetence (Nicholls, 1984; Petherick & Markland, 2008). Similarly, social physique anxiety is characterized by the need to protect the presentation of the self in the presence of others (Leary, 1992); hence, it was expected to be negatively related to self-compassion. Lastly, obligatory exercise is characterized by the tendency to exercise in ways that are harmful to one's physical and psychological well-being (Steffen & Brehm, 1999). Obligatory exercise was expected to be negatively related to self-compassion because it includes exercise behavior that results in harm and diminishes well-being. These particular exercise-related outcomes were also chosen, in part, because they reflect a diverse range of variables, each shown to be related to well-being (or a lack of well-being; e.g., Ackard, Brehm, & Steffen, 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000). Also, because of the role of self-evaluation in each of these exercise-related outcomes, they seem particularly relevant to explore regardless of whether self-compassion has predictive value beyond self-esteem.

Based on the above review, there were two main hypotheses. First, as a healthy conceptualization of the self, self-compassion was expected to be positively related to identified, integrated, and intrinsic motivation to exercise, as well as task goal orientation. Alternatively, self-compassion was expected to be negatively related to external and introjected motivation to exercise, as well as ego goal orientation, social physique anxiety, and obligatory exercise behavior. Second, because of their shared benefits, although self-compassion and self-esteem were expected to be positively related (and related in a similar way to exercise motives and exercise-related outcomes), self-compassion was expected to explain unique variance over and above self-esteem on motives to exercise, goal orientations, social physique anxiety, and obligatory exercise behavior.

Method

Participants

Participants were 252 young adult women who exercise, ranging in age from 17 to 43 years. Participants were recruited from a fitness center and Kinesiology and Psychology undergraduate classrooms at a mid-west Canadian university. The average age of participants was 21.9 years of age ($SD = 4.2$). Two-hundred forty-three participants self-identified as White, six as Aboriginal, five as Chinese, two as Filipino, and two as "other" (note that some participants identified as belonging to more than one group). In order to take part in this study, participants were required to be regular exercisers, 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 on average 60.1 minutes per session, 4.3 days per week, for at least a year.

Measures

Self-compassion. The Self-Compassion Scale (SCS; Neff, 2003b) is a 26-item, 5-point scale, with items ranging from 1 (*almost never*) to 5 (*almost always*), and measures one's level of self-compassion. Six subscales were developed to measure the three main components of self-compassion on separate subscales, which taken together represent the participants' overall level of self-compassion. The subscales include Self-Kindness (five items; e.g., "I'm tolerant of my own flaws and inadequacies"), Self-Judgment (five items; e.g., "When I see aspects of myself that I don't like, I get down on myself"), Common Humanity (four items; e.g., "I try to see my failings as part of the human condition"), Isolation (four items; e.g., "When I am feeling down I tend to feel like most other people are probably happier than I am"), Mindfulness (four items; e.g., "When something upsets me I try to keep my emotions in balance"), and Over-Identification (four items; e.g., "When something upsets me I get carried away with my feelings"). After reverse scoring some items, mean scores on the six subscales are summed to form a composite self-compassion score (SCS), with higher scores reflecting a greater level of self-compassion. With an undergraduate university sample, test-retest reliability was supported for the SCS over a three-week period ($r = .80$ to $r = .93$ on the six subscales), and the internal consistency for the 26 SCS items was found to be $\alpha = .92$ (Neff, 2003b). In support of convergent validity, the SCS has been found to be negatively correlated with self-criticism ($r = -.65$, $p < .01$) and positively related to social connectedness ($r = .41$, $p < .01$; Neff, 2003b).

Self-esteem. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) 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 RSES has been reported high at $\alpha = .96$ (Strelan, Mehaffey, & Tiggemann, 2003). The Rosenberg Self-Esteem Scale is a widely used measure that shows good reliability and validity over time (Furnham, Badmin, & Sneade, 2002).

Self-determination. The Behavioral Regulations in Exercise Questionnaire (BREQ; Mullan, Markland, & Ingledew, 1997) is a 15-item measure on self-determined motives to exercise. 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*). The BREQ has four subscales including external (four items; e.g., "I exercise because other people say I should"), introjected (three items; e.g., "I feel guilty when I don't exercise"), identified (four items; i.e., "I value the benefits of exercise"), and intrinsic (four items; e.g., "I exercise because it's fun"). The BREQ was found to be a reliable measure for attendees of a sports center, with test-retest scores over one week ranging from .76 to .90 for motivational regulations (Mullan et al., 1997). Acceptable internal consistency among the subscales has also been shown (extrinsic, $\alpha = .78$; introjected, $\alpha = .76$; identified, $\alpha = .78$; intrinsic $\alpha = .90$). Evidence of convergent and discriminant validity has been supported across several studies (e.g., Mullan et al., 1997; Vallerand & Fortier, 1998; Wilson, Rodgers, Blanchard, & Gesell, 2003; Wilson, Rodgers, & Fraser, 2002). For example, convergent validity was supported by correlations between identified ($r = .70$) and intrinsic ($r = .90$) regulations and perceived behavioral control (Wilson et al., 2002). Four additional items were added to the BREQ to assess integrated motivational

regulations (e.g., “I exercise because it is consistent with my life goals”), based on recommendations by Wilson, Rodgers, Loitz, and Scime (2006).

Goal orientations. The Goal Orientations in Exercise Measure (GOEM; Petherick & Markland, 2008) 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 goal orientation (GOEM-task; e.g., “I exercise to the best of my ability”) or ego goal orientation (GOEM-ego; 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 goal orientation 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 ($\alpha = .78$) and the five ego items ($\alpha = .88$; Petherick & Markland, 2008). Evidence of construct validity was shown with task goal orientation being positively related to intrinsic, identified, and introjected motivational regulations, and to perceived ability. Further, ego goal orientation was positively related to introjected and external motivational regulations, perceived ability, and perceived threat. Discriminant validity was shown with task goal orientation being negatively related to external and amotivation regulations and to social physique anxiety (Petherick & Markland, 2008).

Social physique anxiety. Although the Social Physique Anxiety Scale (SPAS) was developed originally as a 12-item measure (Hart, Leary, & Rejeski, 1989), we used the 9-item version based upon recommendations by Martin, Rejeski, Leary, McAuley, and Bane (1997). The SPAS measures the degree of anxiety one experiences when one perceives that the 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*). A sum of the items results in a total SPAS score ranging from 9 to 45, 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 reliability ranging from $\alpha = .87$ to $\alpha = .93$ (Bartlewski, Van Raalte, & Brewer, 1996; Crawford & Eklund, 1994; Eklund & Crawford, 1994; Martin et al., 1997; Petrie, Diehl, Rogers, & Johnson, 1996) with a variety of female populations. Supporting the validity of the measure with women undergraduate students, fear of negative evaluation ($r = .47$), interaction anxiousness ($r = .40$), and public self-consciousness ($r = .30$) have been shown to be related to the SPAS (Hart et al., 1989). Martin et al. (1997) found that the 9-item scale maintained similar reliability and validity scores to the 12-item scale.

Obligatory exercise. The Obligatory Exercise Questionnaire (OEQ; Pasman & Thompson, 1988) is a 20-item instrument that 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 behavior. 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. Test-retest reliability has

been supported with young women, with test-retest correlations ranging from $r = .68$ to $r = .76$ (Steffen & Brehm, 1999). Further, after two weeks, test-retest reliability has been reported to be $r = .96$ with a university undergraduate sample (Pasman & Thompson, 1988). Internal consistency for the OEQ ranges from $\alpha = .62$ to $\alpha = .96$ (Pasman & Thompson, 1988; Steffen & Brehm, 1999; Thompson & Pasman, 1991). Supporting convergent validity of the OEQ, it has been related to both anxiety if unable to exercise ($r = .87$) and exercising despite an injury ($r = .72$; Pasman & Thompson, 1988).

Procedure

Prior to recruiting participants and following approval from our institutional ethical review board, 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. The final questionnaire package was delivered in an online format through a secure website. Informed consent was obtained online, and participants were offered an incentive of winning one of two fifty-dollar gift certificates to complete the survey.

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 from an initial sample size of 262). 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). There were no outliers based on the criteria of a standard score greater than 3.29 standard deviations above the mean on any of the measures.

Internal consistency reliabilities of the scales were examined using Cronbach's alpha. Pearson product moment correlations were used to test the first hypothesis that self-compassion would relate: (i) positively to identified, integrated, and intrinsic motivation; (ii) negatively to external and introjected motivation; (iii) positively to task goal orientation; (iv) negatively to ego goal orientation; (v) negatively to social physique anxiety; and (vi) negatively to obligatory exercise behavior. Separate hierarchical regression analyses were run for each variable found to be significantly related to self-compassion (from the testing of Hypothesis 1) to examine whether self-compassion would predict unique variance beyond self-esteem on each exercise motivation and exercise-related outcome variable. For all hierarchical regression analyses, self-esteem was entered into the equation in Step 1 followed by self-compassion in Step 2. All 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 scatter plots of the residuals. The level of significance was set at $p < .05$ prior to all analyses.

Results

Descriptive Statistics and Scale Reliabilities

Descriptive statistics are presented for the Self-Compassion Scale (SCS), the Rosenberg Self-Esteem Scale (RSES), the Behavioral Regulations in Exercise

Questionnaire (BREQ), the Goal Orientations in Exercise Measure (GOEM), the Social Physique Anxiety Scale (SPAS), and the Obligatory Exercise Questionnaire (OEQ; see Table 1). The distributions of the BREQ and GOEM subscales were normalized using logarithmic and square root transformations, as recommended by Tabachnick and Fidell (2001) because of non-normality. Subsequently, all analyses were re-run with the transformed scales. However, the test statistics were not substantially different, and the conclusions remained the same regardless of whether the analyses were conducted with the non-transformed or transformed scales. Thus, all results are reported with the original scale variable distributions.

Hypothesis 1

As shown in Table 2, there was partial support for the first hypothesis in that all significant relationships with self-compassion were in the expected direction, including external motivation, introjected motivation, intrinsic motivation, ego goal orientation, social physique anxiety, and obligatory exercise; however, contrary to the hypothesis, self-compassion was not significantly related to identified motivation, integrated motivation, and task goal orientation.

Hypothesis 2

The second hypothesis that self-compassion would predict unique variance over and above self-esteem was also partially supported. As hypothesized, self-compassion predicted unique variance beyond self-esteem on introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise (see Table 3). The amount of unique variance explained by self-compassion ranged from 1.8% (obligatory exercise) to 4.2% (social physique anxiety) with the total explained variance accounted for in these models ranging from 4.1% (ego goal orientation) to 39.5% (social physique anxiety). Contrary to the hypothesis, self-compassion did not

TABLE 1 Descriptives and Reliabilities for Self-compassion (SCS), Self-esteem (RSES), Exercise Motivations (BREQ), Goal Orientation (GOEM), Social Physique Anxiety (SPAS), and Obligatory Exercise (OEQ)

Variable	Mean	SD	α
SCS (<i>range 1–5</i>)	3.03	0.67	.88
RSES (<i>range 0–30</i>)	21.12	4.75	.88
BREQ (<i>range 0–4</i>)			
External	0.74	0.78	.82
Introjected	2.14	1.04	.81
Identified	3.48	0.53	.66
Integrated	2.87	0.93	.85
Intrinsic	3.22	0.64	.83
GOEM (<i>range 1–5</i>)			
Task	4.30	0.65	.87
Ego	1.98	0.89	.86
SPAS (<i>range 9–45</i>)	29.00	8.49	.92
OEQ (<i>range 20–80</i>)	47.44	8.22	.86

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

TABLE 2 Correlations Among Self-compassion (SCS), Self-esteem (RSES), Exercise Motivations (BREQ), Goal Orientation (GOEM), Social Physique Anxiety (SPAS), and Obligatory Exercise (OEQ)

Variable	1	2	3a	3b	3c	3d	3e	4a	4b	5	6
1. SCS	—										
2. RSES	.71*	—									
3. BREQ											
3a. External	—	-.24*	—	-.32*	—						
3b. Introjected		—	-.41*	—	.40*	.36*	—				
3c. Identified			.01	.08	—	.10	.33*	—			
3d. Integrated			.11	.14*	—	.12	.29*	.63*	—		
3e. Intrinsic			.19*	.20*	—	.21*	.03	.50*	.54*	—	
4. GOEM											
4a. Task			.12	.19*	—	.20*	.03	.32*	.27*	.30*	—
4b. Ego				—	.20*	—	.11	.31*	.25*	.10	.17*
5. SPAS					—	.57*	.30*	.43*	.01	—	—
6. OEQ						—	.24*	—	.55*	.57*	.34*
											—

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

TABLE 3 Summary of Hierarchical Regression Analysis with Self-esteem (RSES; Step 1) and Self-compassion (SCS; Step 2) as Predictor Variables

Criterion variable	β	SE β	β	R ²	ΔR^2
BREQ – External					
<i>Step 1</i>				.100*	.100*
RSES	-.052	.010	-.316*		
<i>Step 2</i>				.100	.000
RSES	-.049	.014	-.298*		
SCS	-.030	.099	-.026		
BREQ – Introjected					
<i>Step 1</i>				.151*	.151*
RSES	-.085	.013	-.389*		
<i>Step 2</i>				.186*	.035*
RSES	-.045	.018	-.203*		
SCS	-.410	.126	-.263*		
BREQ – Intrinsic					
<i>Step 1</i>				.035*	.035*
RSES	.025	.008	.188*		
<i>Step 2</i>				.042	.007
RSES	.014	.012	.107		
SCS	.109	.084	.114		
GOEM – Ego Goal					
<i>Step 1</i>				.012	.012
RSES	-.021	.012	-.112		
<i>Step 2</i>				.041*	.028*
RSES	.011	.016	.056		
SCS	-.318	.117	-.238*		
SPAS					
<i>Step 1</i>				.353*	.353*
RSES	-1.064	.091	-.594*		
<i>Step 2</i>				.395*	.042*
RSES	-.698	.124	-.390*		
SCS	-3.682	.885	-.289*		
OEQ					
<i>Step 1</i>				.042*	.042*
RSES	-.355	.107	-.205*		
<i>Step 2</i>				.060*	.018*
RSES	-.121	.150	-.070		
SCS	-2.363	1.071	-.192*		

Note: * $p < .05$.

predict unique variance beyond self-esteem on external and intrinsic motivation, with self-esteem alone accounting for 10% of the variance in external motivation and 3.5% of the variance in intrinsic motivation. It is noteworthy that self-compassion

was the only significant predictor of ego goal orientation and that 13% of introjected motivation variance, 27% of the social physique anxiety variance, and 3.9% of the obligatory exercise variance was shared between self-esteem and self-compassion.

As expected, self-compassion and self-esteem were strongly related to each other and significantly related in the same direction to external motivation, introjected motivation, intrinsic motivation, social physique anxiety, and obligatory exercise (see Table 2). In no case were self-compassion and self-esteem related in the opposite direction to any of the exercise motivations or exercise-related outcomes.

Discussion

The present study provides evidence that self-compassion is related to well-being in the exercise context, raising the possibility that the development of self-compassion may be potentially important for women who exercise. Self-compassion was related to a number of exercise motivations and exercise-related outcomes in hypothesized ways. Specifically, self-compassion was linked with greater intrinsic motivation and with lower levels of external and introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise. In addition, self-compassion explained unique variance beyond self-esteem in predicting lower levels of introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise. Together, these results suggest much promise for the construct of self-compassion as a way to promote a healthy conceptualization of the self for women exercisers.

The finding that self-compassion was related to various exercise motivations should not be surprising, given the links described earlier between the self-compassion and self-determination literature. Among the autonomous forms of motivation, intrinsic motivation specifically was positively related to self-compassion. While self-compassion is based on the premise of extending kindness towards oneself in the face of perceived failures, Thogersen-Ntoumani and Ntoumanis (2006) explained that intrinsic motivation also involves a strong inclination to be authentic to the self, a process that involves unconditional feelings of self-worth. Neff et al. (2005) suggested that because being self-compassionate and intrinsically motivated promotes a greater sense of self-worth and less self-evaluation, feelings of self-worth are fostered that outlast situational difficulties. On the other hand, both external and introjected motivations were negatively related to self-compassion, which was expected since both types of motivations involve self-worth contingent upon an outcome (Ryan, 1982). Those with external and introjected motives behave because they feel they have to, not because they want to (Deci, Eghrari, Patrick, & Leone, 1994). Thus, people who feel that their self-worth is contingent upon success (a stance inconsistent with self-compassion) would be expected to engage in self-evaluation to create or sustain their self-worth (Sheldon, Williams, & Joiner, 2003).

Overall, the negative relationships between self-compassion and various exercise-related outcomes raise the possibility that self-compassion might act as a potential buffer against outcomes that rely highly on self-evaluative processes. For example, self-evaluation is a critical aspect of ego goal orientation since realizing the attainment or failure of a goal involves evaluating the performance of the self in relation to the performance of others (Kilpatrick, Bartholomew, & Riemer, 2003). In contrast, self-compassion is characterized by a lack of, or reduced focus on, self-evaluation (Neff, 2003b). Similarly, self-presentational concerns such as social physique anxiety generally originate from self-evaluative concerns about weight, appearance, body shape, and tone (Bane & McAuley, 1998; Crawford & Eklund,

1994), as well as perceived pressures to achieve a thin body type that arise from comparisons to “ideal” female figures (Bordo, 1993; Heinberg & Thompson, 1995; Sabiston et al., 2005). What self-compassion potentially offers is a sense of self-worth not based on beauty standards or performance evaluations (Neff, 2004; Neff et al., 2005). Self-compassion should be negatively related to potentially negative exercise behaviors, such as obligatory exercise, because having compassion for oneself involves giving up harmful behaviors and encouraging actions to further well-being (Neff, 2003a). When feelings of self-compassion are complete and genuine, they encourage change where needed and rectify harmful or unproductive patterns of behavior (Neff, 2003b); thus, high levels of obligatory exercise behavior are probably unlikely for those who report a self-compassionate self-reference point.

The literature acknowledges that exercise itself does not necessarily produce positive psychological outcomes, especially in settings that are structured to evoke self-presentational concerns through an emphasis on the body and appearance (Raedeke, Focht, & Scales, 2007). Mirrors and the presence of others are examples of two environmental factors that can make even experienced women exercisers more self-conscious of their bodies and performance (Greenleaf, McGreer, & Parham, 2006). As suggested by Raedeke et al., it might not be the presence of mirrors or others per se that that is critical; rather, it might be the evaluative threat that they potentially create (e.g., exercising in close proximity to those perceived to be more attractive). In addition, women exercisers often have a constrained description of the ideal body (e.g., a body that is lean and toned, but not overly so; Greenleaf et al., 2006); therefore, they need to have ways to manage those discrepancies in a way that promotes a healthy self-image. Because of the role of self-compassion in helping women to better manage evaluation, it might be a particularly valuable resource in exercise settings where there is high potential for evaluative threat. Although not with an exercise-specific sample, Leary et al. (2007) showed that individuals high in self-compassion were less influenced by raters’ evaluation of disclosure of personal information. This finding suggests that women exercisers who are self-compassionate might also be less influenced by others’ evaluations in group exercise settings. However, specifically when, where, and for whom self-compassion is most useful remains an important question for future research.

Similar to the results in our study, self-compassion and self-esteem are typically moderately related to one another (Neff, 2009). Leary and MacDonald (2003) spoke specifically 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. However, despite their potential differences, we tend to support a viewpoint that sees self-compassion and self-esteem as complementary to one another rather than as alternatives. Leary et al. (2007) suggested that self-compassion might be especially useful when the aversiveness of negative events threaten self-esteem and for those with low self-esteem. They based this conclusion on the finding that high self-compassion participants with low self-esteem accepted the validity of positive feedback from an evaluator, as well as recognized the potential inaccuracies in neutral feedback, more readily than those low in self-compassion. Ultimately, the best approach when working with women exercisers is likely one that fosters both self-compassion and self-esteem; however, given their conceptual and empirical overlap, even this remains to be determined.

Because of the relationship between self-compassion and self-esteem, the finding that self-compassion predicted unique variance beyond self-esteem on a number of

exercise motivations and exercise-related outcomes provides particularly strong support for the potential of self-compassion as a complementary resource to self-esteem. Self-compassion was expected to make unique contributions beyond self-esteem on motives to exercise and other exercise-related outcomes in this study. The rationale was that self-compassion minimizes the self-evaluation process of self-esteem and offers “an alternative conceptualization of a healthy attitude towards oneself” (Neff, 2003a, p. 85). More specifically, in our study self-compassion contributed unique variance on introjected motivation, ego goal orientation, social physique anxiety, and obligatory exercise, each of which can be argued to reflect less positive well-being (Ackard et al., 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000). That self-compassion and self-esteem were related to these outcomes in similar ways was not unexpected given that they both reflect healthy perspectives of the self. However, as Leary et al. (2007) have suggested, 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. Furthermore, differences between self-compassion and self-esteem may have gone undetected until now because self-compassion was not previously measured. Even in the present study, however, self-esteem alone did account for unique variance in external and intrinsic motivation, suggesting that in some cases self-esteem may be at least as important, or perhaps even more important, than self-compassion. To reiterate, knowing the unique and complementary roles of self-compassion and self-esteem in women’s exercise experiences remains an important direction for future research.

Another possible explanation for why self-compassion predicted unique variance beyond self-esteem may be in considering 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, 2007a) and have 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” (Neff et al., 2007a, p. 146). Leary et al. (2007) noted that it is unclear whether self-compassionate people engage in self-evaluation less than people who are low in self-compassion. Another possibility is that self-compassionate people self-evaluate just as frequently as others, but they maintain positive views of themselves. Although in her earlier work Neff proposed that self-compassion does not involve self-evaluation (i.e., Neff, 2003a, 2003b, 2004; Neff et al., 2005), Neff et al. (2007a) have more recently suggested that self-compassion may still involve self-evaluation, but that self-evaluation might simply operate differently within self-compassion (such that the worth of the self is not contingent upon performance evaluations). Regardless of the role of self-evaluation in self-compassion, the self-compassion construct may be most useful in the context of negative attitudes and behaviors.

One challenge, however, is that it is still not clear what makes up a “negative attitude and behavior”. 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., 2007a). Neff (2003b) defined 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, she was not specific about what

instances of pain or failure include. Leary et al. (2007) found that 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 negatively related to introjected motives, ego goal orientation, social physique anxiety, and obligatory exercise, which might not be considered "instances of pain or failure" but are often linked to lower levels of well-being (Ackard et al., 2002; Duda & Whitehead, 1998; Leary, 1995; Ryan & Deci, 2000). Clearly, much remains to be understood in terms of the negative events for which self-compassion is most useful.

One limitation to our research is that while our results showed that self-compassion predicted unique variance beyond global self-esteem across a variety of exercise motives and exercise-related outcomes, they provided little insight as to whether or not self-compassion is beneficial beyond more domain-specific evaluations. The multidimensionality of self is generally well-supported (Hattie & Fletcher, 2005), with the clear identification of the physical domain as important (e.g., Fox, 1997; Harter, 2003; Hattie, 1992; Sonstroem & Morgan, 1989). Physical self-worth specifically has been further subdivided into more specific domains such as perceptions of sport competence, body attractiveness, physical strength, and physical conditioning (Fox & Corbin, 1989). These types of distinctions between global self-esteem and more domain-specific evaluations are important because the lower-order levels tend to be more strongly related to motivation than global self-esteem for various types of behaviors (Crocker, Kowalski, & Hadd, 2008). Future research exploring the potential for self-compassion beyond not only global self-esteem, but more specific domains of the physical self is clearly needed. However, a proper test might require exploring whether or not self-compassion itself is hierarchical and multidimensional in a way similar to self-esteem. If so, questions about what a physical self-compassion would look like, whether it would be of benefit beyond physical self-worth, and how it might be differentiated from seemingly related constructs such as body appreciation (see Avalos, Tylka, & Wood-Barcalow, 2005) could be useful to address in future research.

Two additional limitations also deserve mention. First, to date, most research on self-compassion is correlational, including the present study. A limitation common to these types of studies is that a causal direction among variables cannot be established. Correlational designs provide an important first step to establish the relevance of self-compassion to the exercise domain. However, questions about whether self-compassion influences motives to exercise and other exercise-related outcomes, whether it is self-compassion that is impacted, or whether these relationships are bi-directional remain unanswered. Second, the women exercisers who participated in this study were predominantly White, young, active university students, limiting the generalizability of the findings. As the mean levels of exercise per week among our sample suggest, the women in our study continue to exercise despite, or potentially because of, any self-presentational concerns they might have. While the relatively high level of exercise participation directly reflects our recruitment criteria, which were set to ensure we had a sample that included women exercisers, it does limit the generalizability of the findings. As shown by Martin Ginis, Burke, and Gauvin (2007), exercise environments that combine the presence of others with mirrors seem to be especially non-conducive to psychological well-being for sedentary women. Thus, the role that self-compassion plays for women who do not exercise because their concerns

over self-evaluation are significant enough to prevent them from exercising seems to be a particularly important avenue for future research. In addition, as Whaley (2004) stated, maintaining a positive sense of self as one ages might require the discounting of one's faults or using others who are, as she said, "worse off" than oneself as a comparison standard. Because our sample was limited to young adults, we have little insight into how self-compassion might be of benefit to women exercisers in the negotiation of self-evaluation across the lifespan.

Finally, if self-compassion is deemed to be an effective resource for women exercisers, future research clearly needs to focus on how best to develop a self-compassionate attitude towards oneself. Leary et al. (2007) developed a brief self-compassion intervention in reaction to a self-recalled negative event that showed benefits over and above those of self-esteem. In their task, participants were asked to list ways in which others experience similar events to them; to write about how they would express understanding, kindness, and concern to themselves in the same way as to a friend; and to describe their feelings in an objective and unemotional fashion. Based on reviewing Leary et al.'s work, along with other research focused on the development of self-compassion (e.g., Gilbert & Proctor, 2006), Neff (2009) suggested that programs designed to increase self-compassion show promise. What remains to be seen is whether or not current self-compassion interventions translate directly to the exercise domain, especially for women in exercise environments who feel evaluated because their body or performance is on display. Regardless, it is clear that the exercise setting can present many challenges and that we need to continue to find ways to work towards ensuring exercise is a positive emotional experience for women and fosters a healthy attitude towards the self. The development of self-compassion may offer a promising step towards that goal.

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