Applying Self-Compassion in Sport: An Intervention With Women Athletes

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This study investigated the effects of a self-compassion intervention on negative cognitive states and self-compassion in varsity women athletes. Athletes who self-identified as being self-critical were randomly assigned to a self-compassion intervention (n = 29) or attention control group (n = 22). The self-compassion intervention consisted of a psychoeducation session and writing components completed over a 7-day period. Measures of self-compassion, state self-criticism, state rumination, and concern over mistakes were collected pretreatment, at 1 week posttreatment, and at a 4-week follow-up. A mixed factorial MANOVA with follow-up post hoc tests demonstrated moderate-to-strong effects for the intervention at posttest and follow-up (Wilks’s Λ = .566, F (8, 42) = 4.03, p < .01, η² = .43). The findings demonstrate the effectiveness of the self-compassion intervention in managing self-criticism, rumination, and concern over mistakes. Fostering a self-compassionate frame of mind is a potential coping resource for women athletes dealing with negative events in sport.

Keywords: rumination, self-criticism, concern over mistakes, mindfulness, coping

Effective stress and emotion regulation requires that athletes possess personal and social resources and effectively employ an array of cognitive and behavioral skills (Hoar, Kowalski, Gaudreau, & Crocker, 2006; Lane, Beedie, Devonport, & Stanley, 2011; Nicholls, 2010). Self-compassion may play an important role in emotion regulation, offering a strategy to deal with negative cognitions and emotions associated with failure and negative events, and at the same time presenting an opportunity to learn from the experience and promote a more positive state of mind (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, Hseih, & Dejitterat, 2005; Shepherd & Cardon, 2009; Terry & Leary, 2011). Self-compassion involves giving oneself care and compassion during difficult times (Neff, 2003b). It is conceptualized as consisting of three elements. The first element, self-kindness, involves being understanding and accepting toward oneself in times of adversity as opposed to being overly self-critical or highly judgmental (Neff). The second, common humanity, is the acknowledgment that one’s experiences are not isolating; rather others have similar experiences (Neff). Finally, mindfulness involves a balance among thoughts and feelings, as opposed to suppressing or denying them (Neff). Being mindful is the opposite of engaging in overidentification, where one is overly reactive and excessively involved with cognition and emotion (Neff).

Conceptually, self-compassion could have an influence at various points in the stress and coping process, including the appraisal of situations, the choice and options in coping efforts, coping effectiveness, or as a coping resource or strategy (Allen & Leary, 2010), all of which may influence resultant cognitive, emotional, and behavioral outcomes. The following sections review the key associations and outcomes of self-compassion, highlighting the potential usefulness of self-compassion; outline self-compassion promotion and intervention, with particular emphasis on compassionate writing; and finally build a case for why self-compassion may be especially useful for women athletes. Such a discussion will provide a foundation for our intervention work in the current study.

Research in psychology supports associations between self-compassion and a variety of adaptive outcomes, including life satisfaction, mastery goals, happiness, optimism, positive affect, and personal initiative, and negative relations to negative affect, self-criticism, depression, anxiety, sadness, rumination, neuroticism, and perfectionism (Leary et al., 2007; Neff, 2003a; Neff et al., 2005; Neff, Rude, & Kirkpatrick, 2007). Empirical evidence also supports the association between self-compassion and cognitions and emotions in the sport domain. Research with adolescent female athletes between the
ages of 13 and 18 years found that self-compassion was negatively related to shame proneness, guilt-free shame proneness, social physique anxiety, objectified body consciousness, fear of failure, and fear of negative evaluation (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011). These findings imply that self-compassion could be particularly useful for athletes dealing with dysfunctional self-conscious emotions and self-evaluative thoughts and behaviors related to appearance and performance (Mosewich et al., 2011). Other research in sport has also suggested the promotion of self-compassion toward both the body and masculinity may be useful in countering some of the evaluation experienced by women athletes (Mosewich, Vangool, Kowalski, & McHugh, 2009). This is important as many women athletes feel evaluated on both their performance and their physique (Mosewich et al., 2009). Preliminary research in varsity women athletes found that self-compassion was negatively related to negative affect and several perfectionism components such as concern over mistakes, doubts about actions, and perceived coach pressure (Mosewich, 2013).

Overall, the literature suggests self-compassion may protect against negative cognition, emotions, and behaviors, positioning it strongly for consideration in terms of potential application in sport. However, while correlational research provides support for the potential of self-compassion, no intervention or experimental studies have examined its causal influence in an applied sport context. Despite the scarcity of self-compassion intervention research in sport, there are some studies outside the sport context that have examined the effectiveness of self-compassion interventions. There are variations in the interventions, with compassionate imagery (Gilbert & Irons, 2004), compassionate writing (Breines & Chen, 2012; Leary et al., 2007; Shapira & Mongrain, 2010), and psychoeducation (Adams & Leary, 2007) being employed to target self-criticism, motivational tendencies, dealing with negative events, depression, and restrictive eating/eating guilt (respectively). Other interventions have used a multimodal design. For example, Gilbert and Procter (2006) targeted shame and self-criticism using compassionate imagery and writing, along with therapeutic guidance. Kelly, Zuroff, Foa, and Gilbert (2010) attempted to promote smoking cessation with compassionate imagery, writing, and psychoeducation. Neff and Germer’s (2013) Mindful Self-Compassion program employed educational and discussion-based group sessions, applied skills, and meditation to target self-compassion and well-being indicators. Overall, there have been a variety of promising approaches, many of which have strong potential for application in the sport domain.

Compassionate writing is an approach that can be used to generate self-compassionate frames of mind and presents a feasible medium within the sport domain. State self-compassion has been successfully induced using compassionate letter writing in a brief intervention by Leary and colleagues (2007). Self-compassion was prompted by having undergraduate students respond in writing to prompts that led them to think about a negative event in a way that fostered self-kindness, common humanity, and mindfulness—akin to Neff’s (2003b) definition of self-compassion. Results suggest that the self-compassion induction led to lower negative affect and increased personal acknowledgment about one’s role in the failure and was particularly effective for those already low in self-compassion. Breines and Chen (2012), as well as Shapira and Mongrain (2010), have also found positive outcomes of self-compassionate writing. Breines and Chen found greater incremental beliefs about a personal weakness, increased motivation to make amends and avoid repeat transgressions, and more motivation to change the personal weakness for the self-compassion group compared with self-esteem and control groups. Shapira and Mongrain found increases in happiness and decreases in depression after engaging in compassionate writing. Taken together, this research not only outlines self-compassionate writing as a medium appropriate for application in sport, but also supports the idea that self-compassion can be effectively promoted in a nonclinical population and that writing strategies produce beneficial outcomes.

Women athletes in particular are a viable target for self-compassion intervention attempts. As a whole, women tend to exhibit lower self-compassion (Neff, 2003a; Neff et al., 2005; Neff & McGhee, 2010) and greater rumination (Nolen-Hoeksema, Larson, & Grayson, 1999) compared with men. In addition, rumination and self-criticism have been identified by women athletes as posing particular problems in coping (Mosewich, Crocker, & Kowalski, 2013). Self-criticism is also negatively related to goal progress among athletes (Powers, Koestner, Lacaille, Kwan, & Zuroff, 2009). Self-compassion is viewed as a key antidote to self-criticism (Neff, 2003b) and is negatively related to rumination (Neff, Kirkpatrick, & Rude, 2007). Further, evidence suggests that self-compassion attenuates negative reactions to distressing events, especially those connected to failure (Leary et al., 2007). Thus, rumination and self-criticism, as well as concern over mistakes, are issues that may be successfully targeted through self-compassion intervention. Concern over mistakes is a component of perfectionism that goes beyond simply noticing and caring about one’s mistakes, as one tends to exaggerate the implications of mistakes. Self-compassion has been found to show a significant negative correlation with concern over mistakes among women athletes (Mosewich, 2013).

Taken together, elements of self-compassion have potential to be applied to areas where women athletes seem to have difficulties with coping, including rumination, self-criticalness, and concern over mistakes. Conceptually, self-compassion aids in changing maladaptive thoughts, feelings, and behaviors by allowing an individual to evaluate the self without self-condemnation, promoting more accurate perceptions of the situation (Neff, 2003b). When an individual faces challenge, setback, or evaluation, self-compassion permits the acknowledgment and evaluation of weaknesses but without excessive
self-criticism and rumination, allowing the individual to move on with an effective focus (e.g., Neff, 2003b, 2009; Neff et al., 2005). A sense of common humanity would allow athletes to identify with others with similar experiences or more easily accept support from others, which has been identified by varsity women athletes as a key strategy for coping with setbacks (Mosewich et al., 2013). When people realize that they are not alone in their experience, feelings of isolation can be reduced and adaptive coping can be promoted (Neff, 2003a). The mindfulness component of self-compassion might help athletes attain a better sense of balance, particularly related to thought patterns, expectations, and standards, as well as help to make decisions that better balance health and performance (Mosewich et al., 2013). Given the potential applications and benefits of self-compassion, developing an intervention to enhance this cognitive-emotional construct seems warranted.

The purpose of the current study was to investigate the effectiveness of a self-compassion intervention in a group of women varsity athletes. The 7-day intervention consists of an adaptation of Leary and colleagues’ (2007) writing exercise, as well as a psychoeducation component, designed to target self-compassion, self-criticism, rumination, and concern over mistakes. Using a 2 group (self-compassion intervention, attention control) × 3 time (pretest, posttest, 4-week follow-up) design, it was hypothesized that the self-compassion intervention group would have higher levels of self-compassion and lower levels of state self-criticism, state rumination, and concern over mistakes at posttest and follow-up, compared with an attention control group. Although the main purpose centered around comparisons to a control group, within-group changes between each time point were also assessed.

Method

Participants

Sixty women athletes competing in varsity sport were recruited through team visits, emails, announcements through coaches, and poster displays from three universities in Western Canada. Eligible athletes were randomly assigned using a random number generator to either an experimental (self-compassion intervention; \(n = 31\)) or attention control group (\(n = 29\)) session. Thirty-one athletes in the intervention group and 26 athletes in the attention control group showed up for the intervention and started the study. Of these, 29 athletes (\(M_{\text{age}} = 20.28, SD_{\text{age}} = 2.25\)) in the self-compassion intervention (experimental) group and 22 athletes (\(M_{\text{age}} = 20.27, SD_{\text{age}} = 1.08\)) in the attention control group completed all three phases of the study. Athletes who dropped out did not complete the questionnaire at posttest or follow-up and thus were not included in the analysis. There were no significant differences at Time 1 between athletes who dropped out and athletes included in the analysis on any of the dependent variables or on age or eligibility year.

Athletes (92% Caucasian, 4% Black, 2% Aboriginal, 2% Chinese, 2% West Asian)\(^1\) were involved in varsity sport [basketball (19.3%), cross-country (3.5%), field hockey (5.3%), golf (5.3%), ice hockey (7.0%), rowing (3.5%), rugby (10.5%), skiing (3.5%), soccer (19.3%), swimming (3.5%), track and field (20.1%), volleyball (5.3%)]\(^2\) at the time of the study. Eight athletes were also current or former national team members. Athletes ranged from eligibility years 1 to 5 (\(M = 2.61, SD = 1.27\)).

Given that initial self-compassion levels may be a critical factor in intervention success (Leary et al., 2007) and initial scores on all variables may present floor and ceiling effects, athletes who self-identified as being highly self-critical in a way that is “less than constructive” were recruited for the current study. Athletes were prescreened to ensure participation was personally appropriate for them. To accomplish this, questions by the first author at recruitment, as well as statements in the consent form and by the first author at the beginning of the initial (psychoeducation) session, were directed to the athletes to ascertain whether any athlete felt her self-criticism was getting in the way of her daily functioning. Athletes were told that if this was the case there were other resources in place that would be better suited to them and the researcher could facilitate access to such resources. Thus, it was the aim to select athletes who were self-critical enough to potentially benefit from the intervention, but not so self-critical to need more intensive clinical intervention. Athletes who identified as being extremely self-critical in a way that they felt interfered with daily functioning would have been referred elsewhere, although no referral occurred in the current study.\(^3\) This approach was designed with the help of two registered psychologists with expertise in screening and referral.

Procedure

After obtaining ethical approval from the institutional research board, a pilot study was conducted with four women in their twenties with athletic experience (as either current or former athletes) to ensure the clarity, length, and readability of the questionnaire packages. Based on the feedback from the pilot study, minor adjustments were made to the questionnaire packages, and the approximate time commitment for the questionnaire packages was determined to be 10–15 min. In addition, the protocol for each group (i.e., psychoeducation presentation, applied example/practice, explanation of modules, and completion of five modules over a 7-day period; details outlined later in the article) was piloted with each of the women to ensure clarity of delivery. Pilot participants were asked to complete the entire intervention protocol to allow for adequate feedback on feasibility and clarity of the proposed intervention tasks. Minor changes to wording and instructions were made based on feedback from the pilot study.

Eligible athletes participated in an initial group session. Separate sessions were run for the self-compassion intervention group and the attention control group, as
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Different information needed to be presented to these two groups. During the session, athletes listened to a psychoeducation presentation, participated in an applied example writing task, and received a book of writing modules to complete over the next 7 days. Thus, structure for each group was identical, but the content (detailed later in the article) differed between the self-compassion group and the attention control group. As recruitment was ongoing, multiple group sessions were run. Group sessions were small, ranging in size from two to eight participants. At the beginning of the initial session, participant consent was obtained and the pretest questionnaire package was administered. Following completion of the questionnaire package, all athletes participated in the psychoeducation presentation and applied component and received the instructions and materials for writing modules to be completed over the next 7 days. Athletes had the option of signing up for e-mail or text message reminders to complete the modules, which were sent out every 2 days. One week following the completion of the 7-day protocol (writing modules), athletes completed a posttest questionnaire online using a secure survey tool. This timeline allowed for the skills and frames of mind taught in the intervention to be both learned and (potentially) applied in the sport context. This questionnaire package was identical to the one distributed at the initial session, and also included two items pertaining to treatment fidelity. A final follow-up questionnaire was distributed online 1 month later. This questionnaire was again identical to the initial one, but also included a form to provide participants the opportunity to give feedback about their experiences with their treatment and a brief one-item measure to ascertain the frequency with which athletes in the self-compassion intervention group continued to use their skill. At this point, participants in the attention control group were given the opportunity to receive the self-compassion treatment (although no further data were collected). Sixteen athletes participated.

Athletes received $5 for completing the first portion of the study (questionnaire and group session) and were entered to win one of five $50 gift cards to Amazon.ca for completing the online questionnaires. They received an additional ballot entry for each online questionnaire they completed.

**Measures Delivered at All Time Points**

**Demographics.** General demographic information (age and sociocultural information), as well as sport-specific information (type of sport, level of sport participation, and year of eligibility in the varsity system), was collected.

**Self-Compassion.** Self-compassion was measured using the 26-item Self-Compassion Scale (SCS; Neff, 2003a). The SCS has six subscales, which includes the three elements of self-compassion: self-kindness (5 items, e.g., “I try to be understanding and patient toward aspects of my personality I don’t like.”), common humanity (4 items, e.g., “I try to see my failings as part of the human condition.”), and mindfulness (4 items, e.g., “When something painful happens I try to take a balanced view of the situation.”), as well as three variables counter to each element: self-judgment (5 items, e.g., “I’m disapproving and judgmental about my own flaws and inadequacies.”), isolation (4 items, e.g., “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world.”), and overidentification (4 items, e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong.”), respectively. Responses are given on a scale from 1 (almost never) to 5 (almost always; Neff, 2003a). Total self-compassion scores are calculated by reverse scoring the negative subscale items (self-judgment, isolation, and overidentification) and then computing a total mean. A single higher order factor explains the intercorrelation of subscales on the SCS, which justifies the use of a total score (Neff, 2003a). Scores from the SCS have psychometric support (Leary et al., 2007; Mosewich et al., 2011; Neff, 2003a, 2009; Neff et al., 2005; Neff, Kirkpatrick, et al., 2007). For the composite SCS, internal consistency reliability has been reported to be $\alpha = .73$ to $.94$ (Leary et al., 2007; Neff, 2003a; Neff et al., 2005) in university student samples. The SCS has also been successfully employed in a group of adolescent women athletes ($\alpha = .87$; Mosewich et al., 2011). Validity is supported by high correlations between ratings of self-compassion from therapists and romantic partners (Neff & Beretvas, 2012; Neff, Kirkpatrick, et al., 2007). The SCS can be distinguished from measures of self-esteem, such as the Rosenberg Self-Esteem Scale and does not appear to be influenced by social desirability bias (Neff, 2003a).

**State Rumination.** State rumination connected to recent negative events in sport was assessed using three questions adapted from Puterman, DeLongis, and Pomaki (2010): (1) “Did you find it hard to stop thinking about the problem afterward?”, (2) “When thinking about the problem afterward, did your thoughts tend to dwell on negative aspects of it, or how badly you felt about it?”, and (3) “Did thinking about the problem tend to make the problem seem worse or make you feel worse about it?”. Participants were asked to respond based on “the most significant negative event in sport over the past week that was personally demanding (such as a setback or failure)” on a scale ranging from 1 (not at all) to 5 (a lot). The original items reflected a Cronbach alpha of .90 in a community sample (Puterman et al., 2010). Higher scores on the rumination items were related to negative affect and trait rumination (Puterman et al., 2010). In the current study, a total mean was used as an indicator of state rumination.

**State Self-Criticism.** Overall levels of self-critical thought were assessed with a seven-item measure based on the monitoring diary by Gilbert and Procter (2006) designed to record people’s experiences of their self-critical thoughts and feelings, which was based on previous studies involving self-compassion (Gilbert, Baldwin, Irons, Baccus, & Clark, 2006; Gilbert & Irons, 2004). The measure was modified for the current study.
to specify a focus on a recent sporting event. Participants were asked to “think about the most significant negative event in sport over the past week that was personally demanding (such as a setback or failure)” and answer about the frequency, power, intrusiveness, length, and feelings associated with self-critical thought connected to the negative event in sport. Responses ranged from 1 to 10, with anchor phrases relevant to the question (e.g., “How intrusive were your self-critical thoughts about a recent negative sport event?”; 1 = not at all to 10 = very intrusive). Although extensive psychometric support is not reported by Gilbert and Procter (2006), when mean levels of self-critical thought were high, self-soothing was low, and vice versa. In the current study, a total mean was used as an indicator of state self-criticism.

**Concern Over Mistakes.** The Concern over Mistakes subscale of the Sport Multidimensional Perfectionism Scale-2 (Sport-MPS-2; Gotwals & Dunn, 2009) was used to assess the degree to which athletes experience concern over their mistakes in a competitive sport context. The subscale consists of eight items (e.g., “Even if I fail slightly in a competitive setting, for me, it is as bad as being a complete failure.”) with responses ranging from 1 (strongly disagree) to 5 (strongly agree). Subscale items have exhibited acceptable internal consistency in a sample of varsity women athletes (Mosewich, 2013). Validity evidence for the Sport-MPS-2 has been established (Gotwals & Dunn, 2009; Gotwals, Dunn, Csagrov Dunn, & Gamache, 2010). Given the parameters of the proposed study, a temporal aspect to the instructions was included, asking participants to “answer each question thinking back over the past week in your sport.” In addition, the original wording used competition as the context; however, to consider both training and competition contexts, the phrase competitive settings was used. It was explicitly stated in the instructions that competitive settings can include both training and competition situations. Mean scores indicated level of concern over mistakes.

**Measure Delivered Following Intervention (Posttest)**

**Treatment Fidelity.** To gauge participant adherence and responsiveness, two items were included at the end of the posttest questionnaire package. Participants were asked to indicate, on a 0–5 scale, “How many times during the one week intervention did you engage in / complete the assigned writing task?”. They were also asked, “To what extent did you engage in and make use of the writing activity?” and rated their engagement on a 1 (not at all) to 5 (very much) scale.

**Measure Delivered at the 1-Month Follow-Up**

**Feedback.** At the 1-month follow-up, all athletes were provided with an opportunity to provide open-ended feedback surrounding the intervention condition in which they took part. In addition, to get an understanding of continued use over the month since the intervention, self-compassion intervention participants were asked to rate the frequency of use of their skill from 1 (never) to 5 (very often).

**Intervention Design**

The first author facilitated all intervention and attention control group sessions and follow-up contact.

**Self-Compassion Intervention Group.** The self-compassion intervention consisted of a psychoeducation session and a series of writing modules to be done over the course of a 7-day period. The psychoeducation component began with a 10-min presentation that consisted of a brief overview of basic stress and coping ideas in sport and background information on self-compassion. The premise of the construct was explained, and relevant empirical work was highlighted, along with an explanation of why engaging in a self-compassionate frame of mind might be helpful for dealing with challenges in sport. Evidence was given that self-compassion does not promote complacency and/or passivity, and instead that practicing self-compassion is an adaptive way to conceptualize and deal with challenges that may promote a more attuned focus to sport-specific tasks and aid in goal progress. These are important justifications to make, as Gilbert (2005) has suggested that people who have high expectations of themselves and have a strong focus on performance may fear that self-compassion may interfere with goal progress and attainment. One of the most common barriers to self-compassion is fear of the promotion of self-indulgence or creating a deterrent to motivation (Gilbert, McEwan, Matos, & Rívis, 2011). This model of justification is similar to the approach used by Neff and Germer (2013) at the start of their Mindful Self-Compassion program, where they explain what self-compassion is, why it is necessary for well-being, where is it useful, and provide evidence against self-compassion as self-indulgence or complacency.

Following the presentation, the athletes participated in an applied example of self-compassionate writing. Having the athletes engage in the activity provided an opportunity for the researcher to explain in detail the writing exercises that the athletes were to perform over the next week and answer any athlete questions. Athletes were instructed to “Think about a negative event in sport that occurred over the past week that was personally demanding.” They were asked to provide a description of the event, including what happened leading up to the event, who was there, what happened, and any thoughts and actions that happened during the event. After completion of this task, athletes responded to three prompts designed to promote thinking about the event in a self-compassionate way. These writing tasks are based on the writing self-compassion induction by Leary and colleagues (2007), as follows.
1. **Common humanity**—Participants were asked to “list ways in which other people experience similar events” (to the one they just described).

2. **Self-kindness**—Participants were asked to “write a paragraph expressing understanding, kindness, and concern to yourself.” They were instructed to “write as if you are communicating to a close friend in the same situation.” It was explained that often people are much harder on themselves than they would be to others in the same situation. Taking a step outside the situation often makes it easier to give advice and see the issue more clearly.

3. **Mindfulness**—Finally, participants were asked to “describe the event in an objective and unemotional manner,” promoting acknowledgment and balance without overidentification.

After completing the applied task, each athlete was given a module booklet to use for her writing task over the next week. Inside the booklet was a reminder of the protocol. The booklet contained five exercises to be completed over the course of the next 7 days. The researcher went over the instructions for each exercise with the athletes and clarified any questions. The writing tasks consisted of general writing topics, including writing about a current event in sport, hazing in sport, favorite varsity sport memory, technical issues in sport, and reflecting on what it means to be a varsity athlete.

It was explicitly stated to both the self-compassion group and the attention control group that there was no “right” or “wrong” way to write and that the athletes’ personal entries would remain private to them. It was made clear that written responses would not be part of any analysis or read by the researcher. Participants were simply asked to be honest in the entry and reflect on each question, as well as spend at least 10 min providing thorough and well-thought-out responses.

### Data Analysis

The data were analyzed by a 2 (group) × 3 (time) mixed factorial MANOVA. The statistical program G-Power was used a priori to determine the minimum number of participants, assuming moderate effect (\(N = 42\)). Even though there is debate in the literature regarding the appropriateness of using univariate statistics following multivariate analysis (see Huberty & Morris, 1989), follow-up univariate ANOVAs were conducted to further examine significant effects to test the hypothesis. Significant ANOVAs were followed up with pairwise comparisons with a Bonferroni adjustment to examine differences between groups.

Within-group effects were also examined with a series of repeated-measures ANOVAs on each dependent variable, as well as an examination of within-group contrasts and pairwise comparisons using a Bonferroni adjustment.

### Results

Significant multivariate effects were found for the Group × Time interaction, Wilks’s \(\Lambda = .566, F(8, 42) = 4.03, p < .01, \eta^2 = .43\). No significant main effects were found for group, Wilks’s \(\Lambda = .847, F(4, 46) = 2.08, p = .10, \eta^2_p = .15\), or time, Wilks’s \(\Lambda = .835, F(8, 42) = 1.04, p = .43, \eta^2_p = .18\). Follow-up ANOVAs revealed that each outcome variable was significant at the univariate level for the Group × Time interaction: self-compassion, \(F(1.94, 94.84) = 9.38, p < .01, \eta^2 = .16\); rumination, \(F(1.86, 91.60) = 7.55, p < .01, \eta^2 = .13\); self-criticism, \(F(1.97, 95.53) = 7.75, p < .01, \eta^2 = .13\); and concern over mistakes, \(F(1.52, 74.49) = 7.59, p < .01, \eta^2 = .13\). For all outcome variables, pairwise comparisons revealed no significant differences between groups at pretest (Time 1) and significant differences \((p < .05)\) at 1 week posttest (Time 2) and 1 month follow-up (Time 3; see Figure 1). Means and standard deviations for each group at each time point, as well as effect size for group differences, are presented in Table 1.
The repeated-measures ANOVAs for each separate group revealed the following: For the self-compassion group, means on dependent variables differed significantly between time points for self-compassion, $F(2, 56) = 6.83$, $p < .01$; self-criticism, $F(2, 56) = 12.01$, $p < .01$; and rumination, $F(2, 56) = 7.40$, $p < .01$. Pairwise comparisons revealed significant changes between Time 1 and Time 2, as well as Time 1 and Time 3 for self-compassion ($p < .05$ and $p < .01$, respectively) and self-criticism ($p < .01$). Significant changes between Time 1 and Time 3 were observed for rumination ($p < .01$). For the attention control group, means on concern over mistakes displayed a significant change, $F(2, 42) = 5.29$, between Time 1 and Time 3 ($p < .05$).5

All athletes completed at least three of the five modules (self-compassion: $M = 4.52$, $SD = 0.69$; attention control: $M = 4.67$, $SD = 0.58$) and reported engagement in intervention tasks on the high end of a 5-point scale (self-compassion: $M = 4.07$, $SD = 0.75$; attention control: $M = 3.86$, $SD = 0.71$). There were no differences between the self-compassion group and the attention control group on number of modules completed, $t(48) = -.810$, $p = .42$, or reported engagement, $t(49) = .988$, $p = .33$. Use of the skills by the self-compassion group at the 1-month follow-up were also above the midpoint on a point scale ($M = 3.11$, $SD = 1.01$). For exploratory purposes, frequency of self-compassion use was correlated with the dependent variables. Frequency of self-compassion use...
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at the 1-month posttest was significantly correlated with rumination ($r = -0.40, p < .05$), state self-criticism ($r = -0.39, p < .05$), and concern over mistakes ($r = -0.58, p < .01$), but not self-compassion.

Discussion

The self-compassion intervention appeared to be successful, resulting in higher levels of self-compassion, and lower levels of state self-criticism, state rumination, and concern over mistakes in a group of varsity women athletes, compared with an attention control group. A moderate-to-large effect size was found for this intervention (Murphy & Myors, 2004) and achieved standards for practical significance (Ferguson, 2009), further highlighting the potential of this self-compassion promotion strategy in sport.

Within-group analysis provided some indication of change over time and suggested that the self-compassion intervention results in significant increases in self-compassion and decreases in self-criticism and rumination from pretest (Time 1) to the 1-week posttest (Time 2). Self-compassion, self-criticism, and rumination showed significant change in the hypothesized directions from pretest (Time 1) to 1-month follow-up (Time 3), suggesting maintenance of change. Concern over mistakes did not show significant change for the group receiving the self-compassion intervention, but increased for the attention control group between pretest (Time 1) and 1 month follow-up (Time 3).

A key strength to the design of the current study was the use of the randomized control trial. Randomization into experimental treatment and attention control groups provided the opportunity to rule out possible self-selection factors that might have otherwise biased the findings. The attention control group accounts for the influence of an infinite number of variables that can affect the dependent variables other than the treatment itself, as well as mitigates responses due to researcher attention. Thus, we are able to eliminate the alternative hypothesis that the findings are nonspecific therapeutic effects. Indeed, the effects appear to be specifically due to the self-compassion intervention.

The present intervention focused on processing negative events in sport, and results suggest that promoting self-compassionate frames of mind through psychoeducation and writing programs can help athletes to manage, on a state level, the self-criticism, rumination, and concern over mistakes that accompany such events. Such issues are suggested to be especially relevant to women athletes (e.g., Mosewich, 2013; Mosewich et al., 2013), speaking to the importance of encouraging self-compassion in this population and further examining best possible strategies for promotion. From a conceptual stance, self-compassion has been suggested to be a potential resource in sport (Mosewich et al., 2009, 2011, 2013) and the current study is a step toward establishing efficacy and effectiveness support for the intervention approach. The present study is the first to examine self-compassion in an intervention framework in the sport domain and provides empirical evidence to support promotion of self-compassionate frames of mind through psychoeducation and writing exercises.

The intervention was intended to teach athletes about self-compassion and foster a self-compassionate frame of mind when coping with difficult events in sport by encouraging them to apply elements of self-compassion to a negative situation. The design and length of the intervention was structured to provide athletes with an

| Variable and Group | Time 1 | | | Time 2 | | | | Time 3 | | |
|--------------------|-------|---|---|-------|---|---|-------|---|---|
|                    | $M$   | $SD$ | $\alpha$ | $M$   | $SD$ | $\alpha$ | Cohen’s $d$ | $M$   | $SD$ | $\alpha$ | Cohen’s $d$ |
| Self-Compassion    |       |     |       |       |     |       |       |       |     |       |       |
| Experimental       | 2.90  | 0.61 | .88    | 3.12  | 0.64 | .93    | 0.79**  | 3.20  | 0.74 | .95    | 0.82**  |
| Control            | 2.83  | 0.44 | .79    | 2.64  | 0.58 | .91    | 2.67    | 0.56  | .90    | 2.67    |
| State Rumination   |       |     |       |       |     |       |       |       |     |       |       |
| Experimental       | 3.56  | 0.96 | .81    | 3.29  | 0.85 | .84    | –0.66*  | 2.88  | 1.04 | .82    | –1.16** |
| Control            | 3.70  | 0.83 | .86    | 3.90  | 1.00 | .90    | 4.03    | 0.95  | .89    | 4.03    |
| State Self-Criticism|      |     |       |       |     |       |       |       |     |       |       |
| Experimental       | 5.87  | 1.80 | .86    | 4.94  | 1.67 | .89    | –0.89** | 4.58  | 1.76 | .88    | –0.91** |
| Control            | 5.99  | 1.69 | .86    | 6.43  | 1.68 | .88    | 6.13    | 1.66  | .89    | 6.13    |
| Concern Over Mistakes |    |     |       |       |     |       |       |       |     |       |       |
| Experimental       | 3.19  | 0.73 | .83    | 3.06  | 0.84 | .92    | –0.63*  | 3.00  | 0.87 | .87    | –0.78** |
| Control            | 3.31  | 0.60 | .78    | 3.56  | 0.75 | .83    | 3.64    | 0.77  | .81    | 3.64    |

Note. Time 1 = baseline; Time 2 = 1 week postintervention; Time 3 = 1 month postintervention. Cohen’s $d$ is presented as a level of effect size for the difference between the experimental and attention control groups. No significant differences were found at Time 1. Significant differences between groups were found for all dependent variables at Time 2 and Time 3 ($^* p < .05$; $^{**} p < .01$).
opportunity to learn, apply, and practice principles of self-compassion in sport, but also remain feasible in terms of time commitment given the schedules of student-athletes. The intervention outlined in the current study is less involved than the majority of the interventions involving self-compassion to date (e.g., Gilbert & Irons, 2004; Gilbert & Procter, 2006; Kelly et al., 2010; Neff & Germer, 2013). Given the adherence rates suggested at the 1-month follow-up, many athletes continued to use self-compassionate frames of mind and self-compassion skills beyond the structured 7-day intervention period, suggesting the present intervention structure might integrate easily into existing approaches and routines. The outlined approach could be incorporated into mental skills consulting and other applied frameworks by mental skills consultants, coaches, parents, trainers, and athletes themselves and also provides a guide as we seek to encourage self-compassion in women athletes.

The present study, combined with other work in the area of self-compassion, provides a foundation for other empirically derived and theoretically grounded interventions. One potential area of expansion is the body domain, particularly in reducing body-related self-conscious emotion. Given that sport is a highly evaluative context for women, with many athletes feeling evaluated on both their performance and appearance (Greenleaf, 2002; Krane, Stiles-Shipley, Waldrön, & Michalenok, 2001; Mosewich et al., 2009), self-conscious emotion can arise from self-evaluation and how one perceives the evaluation of others (Leary, 2004; Tracy & Robins, 2004). Recent research has suggested potential benefits of self-compassion to manage self-conscious emotion and social physique anxiety (Leary et al., 2007; Mosewich et al., 2011). Thus, self-compassion intervention may help to decrease body-related emotion among women participating in sport, which may improve sport participation outcomes.

An additional area for expansion involves the inclusion of adolescent athletes, and advancing knowledge of intervention effectiveness in a population known to face unique pressures in terms of appearance, performance, and societal ideals (Botta, 2003; Mosewich et al., 2009; Rainey, McKeown, Sargent, & Valois, 1998). Adolescence is a period of life during which self-compassion may be very useful, yet is extremely low (Neff, 2003b). Providing adolescent athletes with the skills and resources to manage performance and body-related issues is a step toward successful and enjoyable sport experiences that may translate into a lifetime of sport participation and positive growth and development. Self-compassion may help to achieve this goal, especially given the relation between self-compassion and positive affective and behavioral tendencies among adolescent women athletes (Mosewich et al., 2011).

While the highlighted results of the current study are promising and the potential for expansion is evident, before widespread use of any program, intervention fidelity, efficacy, and effectiveness should be evaluated. In addition, strengths and limitations should be discussed. This will not only allow for a critique of the present work, but may also identify logical next steps in this line of research. The standardized protocol in the current study is a strength, supporting adherence, regulating dosage and exposure, and helping to foster quality of delivery, which increases confidence in conclusions about the association between the administered treatment and the outcome (Calsyn, 2000) and are important considerations when evaluating treatment fidelity (Carroll, Patterson, Wood, Booth, Rick, & Balain, 2007). Measures of intervention fidelity in the outcome analyses enabled consideration of and support for adherence and participant responsiveness, although the self-report nature was a limitation.

Program differentiation, which involves identifying essential features of an intervention (Carroll et al., 2007), was not possible with the current study design; however, it is a direction for future research. Gaining insight into which aspects of the intervention are most important (psychoeducation, writing, or both), and how it is best administered (e.g., by a mental skills consultant, the athlete herself, the coach) will inform future facilitation of this intervention, tailoring approaches best suited to the population. Before widespread integration and adaptation, more needs to be known surrounding the mechanisms of the intervention and self-compassion itself. Knowledge surrounding underlying mechanisms can further our understanding of self-compassion and help to better direct applied efforts (Raes, 2010).

Intervention efficacy and effectiveness must be upheld before widespread dissemination of an approach is warranted (Flay et al., 2005). Explicit criteria for intervention efficacy, effectiveness, and dissemination are discussed in detail elsewhere (see Flay et al.), but a critical evaluation of this study and possibilities for next steps are prudent. Efficacy surrounds the beneficial effects of a program under optimal conditions of delivery (Flay et al.). The present study fulfills requirements such as defined samples from defined populations, psychometrically sound measures and data collection procedures, appropriate statistical approaches, positive findings, and sustained results. However, for a study to be labeled as efficacious, it should be replicated at least once, so additional trials are warranted. In addition, although changes to outcome variables in the current study were maintained at the 1-month follow-up, sustained results over a longer term (i.e., 6 months) are advocated (Flay et al.). Evaluation of effectiveness involves assessing the quality of an intervention in affecting outcome variables in real-world conditions (Flay et al.). The present study showed expected changes in all outcome variables with a moderate-to-large effect size, implemented in real-world conditions using both intervention and control groups that were randomly assigned, allowing for causal claims and supporting effectiveness, while also minimizing many threats to internal validity (Flay et al.). As outlined earlier, the randomization of participants and use of a control group are main strengths of the study design. The standardized protocol provides support for effectiveness, as does the clear importance of the intervention to the specified population (Flay et al.). However, future...
research will need to address use in other athletic groups, as well as consider moderating factors that may influence intervention effectiveness, such as athletic success and failure, and coaching / learning environment. The present study focused on athletes who self-identify as being self-critical in a way that is less than constructive, and as such, results may not generalize to other populations.

In conclusion, the current study provides support for the utility of self-compassion intervention in sport. This speaks to the importance of helping athletes to develop a wide array of mental skills and coping resources, both traditional and unique, and to facilitate their implementation into regular practice. The development of self-compassion seems to hold merit, particularly among women athletes who self-identify as being highly self-critical. As self-compassion in sport continues to be considered and used, efficacy, effectiveness, mode of delivery, and accessibility to the population need to be continually evaluated to help support the value of this intervention in women’s sport programs, ensuring we are providing a constructive tool that can be widely used to help in the pursuit of not only successful, but enjoyable sport participation for women.

Notes

1. Note that because participants could make more than one identification, percentages add to greater than 100%.
2. Note that some athletes were dual-sport athletes; thus, percentages add to greater than 100%.
3. All 60 recruited athletes were prescreened at recruitment (though only 57 participated in the study and only 51 completed all phases of the intervention, as explained earlier).
4. Specifics on the intervention package are available from the first author upon request.
5. Significant linear trends were found for self-compassion, \( F(1, 28) = 10.53, p < .01 \); self-criticism, \( F(1, 28) = 24.34, p < .01 \); and rumination, \( F(1, 28) = 11.32, p < .01 \), for the self-compassion group. A significant linear trend was found for the attention control group on concern over mistakes, \( F(1, 21) = 8.16, p < .01 \).

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