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Self-compassion and women athletes' responses to emotionally difficult sport situations: An evaluation of a brief induction

Nathan A. Reis [a], Kent C. Kowalski [a, *], Leah J. Ferguson [a], Catherine M. Sabiston [b], Whitney A. Sedgwick [c], Peter R.E. Crocker [c]

[a] University of Saskatchewan, College of Kinesiology, Canada
[b] University of Toronto, Faculty of Kinesiology and Physical Education, Canada
[c] University of British Columbia, School of Kinesiology, Canada

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ABSTRACT

Objectives: To examine self-compassion as a way to promote healthy responses in women athletes when faced with emotionally difficult sport-specific situations.
Design: Phase I, cross-sectional; Phase II, experimental.
Methods: In Phase I, participants ($N = 101$; $M_{age} = 20.0$, $SD = 2.8$ years) completed measures of self-compassion, self-esteem, and narcissism, as well as reactions, thoughts, and emotions in response to hypothetical (i.e., responsible for a team loss) and recalled scenarios. Participants returning for Phase II were randomly assigned to a brief self-compassion induction ($n = 21$), self-esteem induction ($n = 20$), or writing control ($n = 18$) group. Following the induction, they responded to the same hypothetical scenario as in Phase I.
Phase I results: After partialling out self-esteem and narcissism, self-compassion was related ($p < .01$) to negative affect ($r = -.40$), catastrophizing thoughts ($r = -.30$), personalizing thoughts ($r = -.32$), and behavioral equanimity ($r = .28$) for the hypothetical scenario. A similar pattern was found for the recalled scenario.
Phase II results: A MANOVA with Phase I self-compassion, self-esteem, and narcissism as covariates resulted in a non-significant group by time interaction, Wilks' Lambda = .75, $F(12,96) = 1.27$, $p = .25$. Follow-up hierarchical regression analysis showed Phase I levels of self-compassion as the only significant predictor for negative affect, personalizing thoughts, and behavioral equanimity.
Conclusions: Women athletes with higher self-compassion levels generally responded in healthier ways to emotionally difficult hypothetical and recalled situations in sport than their less self-compassionate counterparts. However, future research needs continued focus on evaluating self-compassion inductions and interventions for use in sport.

Improved psychological well-being, emotional development, and self-esteem are just some of the psychological benefits women can experience through participation in sport (Fraser-Thomas, Côté, & Deakin, 2005; Nichols, Sanborn, & Essery, 2007). Despite these benefits, women athletes face both appearance-based and performance-based evaluations in sport (Greenleaf, 2002; Mosewich, Vangool, Kowalski, & McHugh, 2009). These judgments result in outcomes such as body image concern and body dissatisfaction (Gerner & Wilson, 2005; Paxton, Norris, Wertheim, Durkin, & Anderson, 2005), as well as fear, guilt, shame, embarrassment, worry, and anxiety (Conroy, 2001; Sagar, Lavallee, & Spray, 2007, 2009). Women athletes report difficulties with managing appearance- and performance-related demands in sport (Greenleaf, 2002; Mosewich et al., 2009), and often perceive that the evaluative characteristics of the sport environment leaves them vulnerable to maladaptive thoughts and behaviors (Stirling & Kerr, 2012). In addition, women athletes can experience a variety of emotionally painful setbacks in sport, such as poor performance, performance plateau, and injury (Mosewich, Crocker, & Kowalski, 2014). An effective coping method is therefore needed for women athletes to manage emotionally difficult sport situations in a way that provides for a healthier, more positive overall sporting experience.

* Corresponding author. College of Kinesiology, University of Saskatchewan, 87 Campus Drive, Saskatoon, SK, S7N 5B2, Canada. Tel.: +1 306 966 1079.
E-mail address: kent.kowalski@usask.ca (K.C. Kowalski).

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The development of self-compassion might be particularly beneficial for coping in circumstances involving negative evaluations and difficult emotional experiences (Leary, Tate, Adams, Allen, & Hancock, 2007; Neff, 2003a, 2003b). Self-compassion entails being moved by one's own suffering along with a desire to alleviate that suffering; and it is comprised of self-kindness, common humanity, and mindfulness (Neff, 2003a, 2003b). Self-kindness involves treating oneself with warmth and non-judgmental understanding, rather than harsh self-criticisms. Common humanity requires viewing one's own experiences as part of the larger human experience, rather than considering them isolated. Mindfulness entails identifying with one's painful feelings and not avoiding or repressing them, which helps to put one's personal experiences into perspective and view one's suffering with a sense of clarity (Neff, 2003a). In contrast with self-esteem, self-compassion is not dependent upon positive self-evaluations or evaluations by others, and it offers a way to accept all aspects of one's experiences irrespective of how painful or difficult they may be (Leary et al., 2007; Neff, Kirkpatrick, & Rude, 2007).

A growing body of evidence suggests that self-compassion might provide a buffer against some of the negative and self-evaluative thoughts for women in sport, offer a resource in times of emotional pain and failure, and promote athletes' psychological flourishing (Ferguson, Kowalski, Mack, & Sabiston, 2014; Mosewich, Crocker, Kowalski, & DeLongis, 2013; Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011; Sutherland et al., 2014). For example, Mosewich et al. (2011) showed self-compassion to be negatively associated with diverse emotional (e.g., shame-proneness) and cognitive (e.g., fear of failure) outcomes with a sample of women athletes. In addition, self-compassion explained variance beyond that accounted for by self-esteem on many of these same outcomes. However, a limitation of the Mosewich et al. (2011) study is that they did not focus on sport-specific scenarios or use experimental methodologies.

More recently, Mosewich et al. (2013) developed a sport-specific self-compassion intervention that began with an in-person psychoeducational component and a self-compassionate writing exercise. Participants were then provided a module booklet with five writing exercises to be completed over the following week, representing aspects of self-compassion. Modules included: (1) detailing the negative event, (2) thinking about others who experience similar events, (3) expressing kindness to oneself, (4) objectivity perspective taking, and (5) integration of skills. Their research showed that the self-compassion intervention was effective in increasing self-compassion and decreasing self-criticism, rumination, and concern over mistakes for women athletes high in self-criticism. However, a pragmatic limitation with the Mosewich et al. (2013) intervention is the length of time required (i.e., one week). A brief self-compassion induction (i.e., less than 30 min), if shown to be effective, could offer a more practical strategy for athletes, as well as offer a more feasible method for researchers conducting experimental self-compassion studies in sport.

One such approach was used in the research of Leary et al. (2007) whose brief self-compassion induction had three writing prompts, each focused on one of the major components of self-compassion. They asked participants to list ways in which others experience similar events (i.e., common humanity); express understanding, kindness, and concern to themselves in the same way that they might show concern to a friend (i.e., self-kindness); and describe their feelings in an objective and unemotional fashion (i.e., mindfulness). To test the effectiveness of the induction, participants were initially presented with a prompt to "think about a negative event that you experienced in high school or college that made you feel badly about yourself—something that involved failure, humiliation, or rejection" (p. 899). Subsequent results showed that the self-compassion induction group reported significantly lower negative affect than a self-esteem induction group, a writing control group, and a no-induction group. Supporting its potential for use with athletes, the modules developed by Mosewich et al. (2013) for their sport-specific intervention were modeled after the Leary et al. (2007) writing exercises.

While not focused specifically on sport, Leary et al. (2007) offer a useful framework to explore other research questions related to the role of self-compassion in sport. Across multiple studies, including the self-compassion induction study mentioned above, the overlying goal of Leary et al.'s work was to explore the cognitive and emotional processes by which self-compassionate people deal with unpleasant life events. In one study, participants "… described in two sentences or fewer the worst thing that had happened during the past 4 days" (p. 889). As expected, results showed that self-compassion was positively related to kind treatment of oneself and equanimity (i.e., remaining calm and unflustered) for participants' recalled events. These findings further the idea that self-compassion is linked to kind treatment of the self and, in more general terms, healthy reactions to emotionally difficult scenarios. In another study, Leary et al. examined the unique contribution of self-compassion beyond self-esteem and narcissism across three hypothetical scenarios, one of which was "being responsible for losing an athletic competition for your team" (pp. 891–892). For this sport-specific hypothetical scenario, self-compassion predicted unique variance beyond self-esteem and narcissism for behavioral equanimity, personalizing and equanimous thoughts, and negative affect. As they argued, while self-compassion and self-esteem tend to be related to one another, self-compassion should be related to outcomes differently from self-esteem. Also, self-compassion and self-esteem operate differently once their shared variance is partialled out (Neff & Vonk, 2009). More specifically, as Neff and Vonk (2009) stated, self-esteem remains with positivity of self reflections, while warm feelings associated with an acceptance of oneself without judgment or evaluation remain with self-compassion. In addition, Leary et al. argued for the importance of also controlling for narcissism given that measures of self-esteem tend to be related to narcissism.

The Leary et al. (2007) research provides a framework to study the role self-compassion might play in how women athletes react, think, and feel in response to emotionally difficult situations faced in sport. Most significantly, they developed a set of response measures for hypothetical and recalled scenarios, they created a sport-specific hypothetical scenario, they controlled for both self-esteem and narcissism, and they developed the brief self-compassion induction we chose to use in our study. Where our research differed most significantly was in our focus on a sport-specific sample of women athletes, our use of sport-specific recalled scenarios, and in the implementation of a pre-post experimental design to evaluate the self-compassion induction. In Phase I, we explored women athletes' responses to emotionally difficult, hypothetical and recalled, sport-specific situations. In Phase II, we evaluated the effectiveness of a brief self-compassion induction on women athletes' responses to the same hypothetical scenario used in Phase I.

Phase I

Purpose

The purpose of Phase I was to determine if self-compassion is related to reactions, thoughts, and feelings for women athletes faced with emotionally difficult, hypothetical and recalled, sport-specific situations. Based on the work by Leary et al. (2007), it was hypothesized that self-compassion would be positively related

to more healthy reactions and thoughts, while negatively related to more unhealthy thoughts and emotions, and that these relationships would remain significant after semi-partialling out self-esteem and narcissism.

Method

Participants

Participants were 103 women athletes between 14 and 25 years of age who had participated in an organized sport within the past year. Participants with more than two missing data points on any subscale were deleted from the data set ($n = 2$), resulting in the final sample size of 101 participants for Phase I. Mean age of participants was 20.0 years ($SD = 2.8$ years), mean height was 169.3 cm ($SD = 7.2$ cm), and mean weight was 63.1 kg ($SD = 8.9$ kg). The majority of participants self-identified as Caucasian (93.1%) and had participated in sport three or more times in the past week (59.4%). Participants represented a variety of different sports (e.g., athletics, basketball, football, softball, soccer, volleyball) ranging from recreational to international levels, with the majority of participants (55.4%) competing at a provincial and national level.

Measures and materials

Self-compassion. Self-compassion was assessed using the Self-Compassion Scale (SCS) (Neff, 2003a). The SCS consists of 26 items, rated on a scale from 1 ("almost never") to 5 ("almost always"), across six sub-scales including self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. A composite of sub-scales form a mean SCS composite, following reverse scoring of negatively worded items. The composite 26-item SCS has demonstrated acceptable internal consistency reliability with women athletes ($\alpha = .87$; Mosewich et al., 2011).

Self-esteem. Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965). The RSES consists of 10 items ranging from 1 ("strongly disagree") to 4 ("strongly agree"). Of the 10 items, five are positively worded (e.g., "I feel that I have a number of good qualities"), while the other five are negatively worded (e.g., "At times, I think I am no good at all"). A composite self-esteem score is created by summing the 10 items, following reverse scoring of negatively worded items. The internal consistency reliability has been shown as acceptable with women athletes ($\alpha = .83$; Mosewich et al., 2011).

Narcissism. To assess narcissism, the 40-item Narcissistic Personality Inventory (NPI) (Raskin & Hall, 1979) was used. The NPI is a forced-choice, self-report questionnaire, designed to measure narcissism as a personality characteristic (Corry, Merritt, Mrug, & Pamp, 2008). Each of the 40 items consists of a pair of narcissistic and non-narcissistic statements. For example, "modesty doesn't become me" is paired with the statement, "I am essentially a modest person". Participants select which statement of each pairing best represents their personality. The 40 items are summed together, with higher scores indicating higher levels of narcissism. As a composite inventory, the NPI's internal consistency reliability is acceptable (e.g., $\alpha = .80$ to $\alpha = .85$ [Corry et al., 2008; Leary et al., 2007; Raskin & Hall, 1979]).

Hypothetical scenario responses. Participants rated reactions, thoughts, and emotions in response to the following hypothetical situation: "Being responsible for losing an athletic competition for your team" (Leary et al., 2007, pp. 891–892). Participants were asked to indicate how likely they would be to react to the hypothetical scenario in seven ways (e.g., "remain relatively calm and unflustered") based on a scale of 1 ("not at all") to 5 ("extremely"). Highly reactive statements (i.e., "overreact", "leave the situation quickly in order to deal with my emotions", and "replay the situation in my mind for a long time afterwards") were reverse scored, and then items were summed creating an index of behavioral equanimity.

To assess participants' thoughts pertaining to the hypothetical scenario, they were asked to rate the likelihood of thinking each of six thoughts on a scale of 1 ("not at all") to 5 ("extremely"). Similar to Leary et al. (2007), four sub-scales each consisting of one or two items were used, including catastrophizing (i.e., "This is awful"), personalizing (i.e., "I am such a loser"; "I wish I could die"), equanimity (i.e., "Everybody goofs up now and then"; "In the long run, this doesn't really matter"), and humor (i.e., "This is sort of funny").

To assess emotional responses to the hypothetical scenario, participants rated how much they would experience 20 emotions on a 7-point scale, ranging from 1 ("not at all") to 7 ("extremely"). Four items represented each of the five emotional subscales (i.e., sadness, anxiety, anger, embarrassment, and incompetence), from which a total negative affect score was calculated (Leary et al., 2007).

Recalled scenario responses. To apply to a sporting context, the wording of Leary et al.'s (2007) recalled scenario was slightly altered to "the worst thing that has happened to you *in sport during the past year* that was or was not your fault". Subsequently, participants rated "in the big scheme of things, how important was this event to you?" on a scale from 1 ("not at all") to 6 ("extremely") (Leary et al., p. 889). To assess reactions, thoughts, and emotions, participants were asked a series of questions similar to Leary et al. Utilizing a scale ranging from 1 ("not at all") to 6 ("extremely"), participants were asked to rate the degree to which they reacted in each of nine ways (e.g., "I tried to be kind to myself"). They also rated the extent to which they thought each of six thoughts about the recalled scenario (e.g., "Why do these things always happen to me?"), on a scale from 1 ("I did not think this thought at all") to 5 ("I kept thinking this thought"). Consistent with Leary et al., all individual reaction and thought items were used for data analysis.

To assess emotional responses to the recalled event, participants rated on a scale from 1 ("not at all") to 6 ("extremely") how they felt in the recalled scenario. There were a total of 16 terms pertaining to sadness (4 items; sad, dejected, down, depressed), anxiety (4 items; nervous, worried, anxious, fearful), anger (4 items; irritated, angry, hostile, mad), and self-conscious emotions (4 items; embarrassed, humiliated, guilty, ashamed). Means of the individual terms within each of the four emotion scales were used to create four subscales (i.e., sadness, anxiety, anger, and self-conscious emotions) similar to Leary et al. (2007).

Procedure

Following University ethics approval, participants were recruited via various sport clubs and teams and directed to an on-line consent form and questionnaire package. Participants under the age of 16 also required a signed parental consent form, collected in-person, before completing the on-line questionnaire. Following consent, participants completed the self-compassion, self-esteem, and narcissism measures. They then were presented with the hypothetical scenario and asked to respond to the questions regarding reactions, thoughts, and emotions to the scenario. The process was then repeated for the recalled scenario.

Data analysis

Participants with one ($n = 19$) or two missing data points ($n = 1$) on the same subscale (representing a total of <0.01% of all data points) were retained and within-person mean substitution was

used to estimate the missing value (Tabachnick & Fidell, 2007). Relationships between self-compassion and responses to the recalled and hypothetical scenarios were examined using Pearson and semi-partial correlations ($p < .05$).

Results

Descriptive statistics showed mean scores of 3.10 ($SD = 0.59$) for self-compassion, 23.24 ($SD = 3.56$) for self-esteem, and 56.06 ($SD = 6.24$) for narcissism. In addition, each of these scales demonstrated acceptable internal consistency (self-compassion, $\alpha = .93$; self-esteem, $\alpha = .84$; narcissism, $\alpha = .82$). Self-compassion was significantly related to both self-esteem ($r = .66$, $p < .01$) and narcissism ($r = .26$, $p < .01$). Self-esteem and narcissism were also significantly correlated ($r = .36$, $p < .01$). However, partial correlations, with the influence of the third variable partialled out, resulted in the relationship between self-compassion and narcissism becoming non-significant ($pr = .03$, n.s.), while the relationships between self-compassion and self-esteem ($pr = .62$, $p < .01$) and between self-esteem and narcissism ($pr = .26$, $p < .01$) remained significant.

Consistent with the hypotheses for the *hypothetical* scenario, self-compassion was positively related to equanimous thoughts and behavioral equanimity and negatively related to catastrophizing thoughts, personalizing thoughts, and total negative affect (Table 1). All relationships, with the exception of equanimous thoughts, remained significant after partialling out self-esteem and narcissism.

For the *recalled* scenario responses, self-compassion was significantly related to most reactions, thoughts, and emotions in the hypothesized direction (Table 2), with the only exception being three of the reaction items (i.e., "I tried to do things to take my mind off the problem," "I expressed my emotions to let off steam," and "I took steps to fix the problem or made plans to do so"). In addition, self-compassion remained significantly related to a number of reactions (i.e., "I tried to be kind to myself", "I tried to make myself feel better", "I was really hard on myself"), thoughts (i.e., "I seem to have bigger problems than most people do", "I'm a loser", "This isn't any worse than what lots of other people go through", "In comparison to other people, my life is really screwed up"), and emotions (i.e., sadness, anxiety, and self-conscious emotions) after partialling out self-esteem and narcissism.

Phase II

Purpose

Given that Phase I findings were generally supportive of a relationship between self-compassion and adaptive responses to sport scenarios, the purpose of Phase II was to determine the effectiveness of a brief self-compassion induction in changing athletes' reactions, thoughts, and emotions, both alone and in comparison to self-esteem induction and writing control groups. The primary hypothesis was that a self-compassion induction would result in more healthy reactions (i.e., behavioral equanimity) and thoughts (i.e., equanimity and humourous), and less unhealthy thoughts (i.e., catastrophizing and personalizing) and emotions (i.e., total negative affect) in response to the hypothetical scenario following the induction, compared to their responses in Phase I. In addition, athletes in the self-compassion induction group were

Table 1
Relationships with self-compassion, self-esteem, and narcissism for the hypothetical scenario (Phase I).

Variable	Phase I – Lost game for team ($N = 101$)		
	SCS	RSES	NPI
Total negative affect	−.54**/.40**	−.37**/−.06	−.02/.14
Thought			
Catastrophizing	−.31**/−.30**	−.12/.07	.06/.12
Personalizing	−.51**/−.32**	−.42**/−.14	−.02/.15
Equanimity	.31**/.16	.29**/.10	.16/.05
Humourous	.01/.10	−.10/−.15	.02/.06
Behavioral equanimity	.35**/.28**	.21*/−.01	.05/−.04

Note. The relationships are presented using the following format: Pearson correlation/semi-partial correlation with the influence of the other two predictors removed. SCS = self-compassion; RSES = self-esteem; NPI = narcissism.
*$p < .05$; **$p < .01$.

Table 2
Relationships with self-compassion, self-esteem, and narcissism for the recalled scenario (Phase I).

Variable	SCS	RSES	NPI
Reaction			
I tried to be kind to myself.	.45**/.38**	.25*/−.03	.01/−.10
I tried to make myself feel better.	.39**/.31**	.25*/.02	−.01/−.12
I was really hard on myself.	−.32**/−.26**	−.20*/−.03	.07/.16
I kept the situation in perspective.	.25*/.16	.21*/.09	−.05/−.14
I tried to do things to take my mind off the problem.	.12/.12	.06/−.02	.00/−.03
I expressed my emotions to let off steam.	.05/−.03	.10/.03	.24*/.22*
I took steps to fix the problem or made plans to do so.	.07/.02	.07/−.05	.32**/.31**
I sought out the company of others.	.23*/.13	.19/.01	.20*/.14
I gave myself time to come to terms with it.	.29**/.31**	.08/−.21*	.28**/.26**
Thought			
I seem to have bigger problems than most people do.	−.34**/−.23*	−.26*/−.11	.12/.24*
I'm a loser.	−.43**/−.25*	−.37**/−.15	.00/.15
This isn't any worse than what lots of other people go through.	.23*/.20*	.13/−.03	.03/−.02
Why do these things always happen to me?	−.26*/−.15	−.22*/−.08	−.04/.05
In comparison to other people, my life is really screwed up.	−.33**/−.24*	−.23*/−.09	.16/.27**
Everyone has a bad day now and then.	.26**/.24*	.12/−.04	−.01/−.07
Emotion			
Sadness	−.41**/−.31**	−.27**/−.02	−.04/.07
Anxiety	−.43**/−.31**	−.32**/−.14	.24*/.39**
Anger	−.44**/−.34**	−.28**/−.04	.05/.18
Self-Conscious Emotions	−.54**/−.48**	−.27**/.06	.03/.16

Note. The relationships are presented using the following format: Pearson correlation/semi-partial correlation with the influence of the other two predictors removed. SCS = self-compassion; RSES = self-esteem; NPI = narcissism.
*$p < .05$, **$p < .01$.

expected to show more significant changes than those in the self-esteem induction and writing control groups.

Method

Participants and procedures

A follow-up e-mail was sent to all participants one month after completing Phase I to recruit for Phase II. As a result, 59 of 101 participants from Phase I volunteered to participate in Phase II (M_{age} = 20.5 years, SD = 2.6 years; M_{height} = 169.3 cm, SD = 7.1 cm; M_{weight} = 62.8 kg, SD = 9.2 kg). Approximately two months after completing Phase I, participants met a female research assistant in a university laboratory space for Phase II data collection. Upon reporting to the laboratory, athletes were randomly assigned using a random number table (double-blind) into one of the following experimental groups: self-compassion induction (n = 21), self-esteem induction (n = 20), or writing task control (n = 18). Participants were presented a sealed envelope that included the hypothetical scenario used in Phase I (i.e., "being responsible for losing an athletic competition for their team") and written instructions for their assigned experimental (or control) group. Participants were instructed to follow the prompt (s), keeping in mind the hypothetical scenario.

Self-compassion induction group. Athletes assigned to the self-compassion induction group responded to three prompts, as developed by Leary et al. (2007). Participants listed ways in which other people also experience similar events; wrote a paragraph expressing understanding, kindness, and concern to themselves in the same way that they might express concern to a friend who had undergone a similar experience; and described their feelings about the event in an objective and unemotional fashion.

Self-esteem induction group. Similar to Leary et al. (2007), participants in the self-esteem induction group responded to three prompts focused on making them feel good about themselves. Across the prompts, participants wrote down positive characteristics that are indications of being competent and valuable, wrote a paragraph explaining how what happened in the hypothetical scenario was not entirely their fault and to interpret the event in a way that made them feel better about themselves, and described why the event does not really indicate anything about who they really are as a person.

Writing control group. Participants in the writing control group were presented with a prompt instructing them to "really let go and explore their deepest emotions" in the context of the hypothetical scenario (Leary et al., 2007, p. 900).

After completing the prompts and writing tasks associated with each group assignment, participants completed an online survey, on a laptop computer provided for them in the laboratory, which included the same series of hypothetical scenario responses as presented in Phase I. Upon completion, athletes were debriefed and given a $10 gift card as a token of appreciation for participation.

Data analysis

The data cleaning procedures were similar to Phase I; and no participants needed to be removed for having missing data. Given the repeated measures and multiple dependent variables being assessed in more than one group (i.e., self-compassion induction, self-esteem induction, writing control), a 3 (group) × 2 (time) MANOVA was used to test the study hypothesis that the self-compassion induction would result in changes to hypothetical scenario responses from Phase I to Phase II, and that the self-compassion induction group would show greater changes than the self-esteem and control groups. Phase I self-compassion, self-esteem, and narcissism scores were included as covariates to account for any variance resulting from initial levels of these variables on the athletes' hypothetical scenario responses.

Results

The MANOVA, in which initial level of self-compassion was the only significant covariate, showed no significant effect for group, Wilks' Lambda = .69, $F(12, 96)$ = 1.66, p = .09; time, Wilks' Lambda = .87, $F(6, 48)$ = 1.22, p = .31; or group by time interaction, Wilks' Lambda = .75, $F(12, 96)$ = 1.27, p = .25. Hence, after controlling for Phase I self-compassion levels there was no support for the effectiveness of any of the inductions on athletes' responses to the hypothetical scenario, nor for the hypothesis that the self-compassion induction group would show greater changes than those in the self-esteem and writing control groups.

To provide greater insight into the role of initial levels of self-compassion on the results, a post-hoc hierarchical regression analysis was run similar to the analysis used by Leary et al. (2007). In their analysis, self-esteem was entered in Step 1, followed by induction group in Step 2, self-compassion (zero-centered) in Step 3, and the induction group by self-compassion interaction in Step 4. Similar to Leary et al., narcissism was not included in the regression analysis. Our results showed that self-esteem was significant at Step 1 for behavioral equanimity, personalizing thoughts, equanimous thoughts, and total negative affect (Table 3). When induction group and self-compassion were entered in steps 2 and 3, respectively, athletes' initial levels of self-compassion emerged as the only significant predictor of behavioral equanimity, personalizing thoughts, and total negative affect. Step 4 was not significant in all analyses, and therefore is not shown in Table 3.

Discussion

The main purpose of this research was to determine if self-compassion can promote healthy responses in women athletes when faced with emotionally difficult sport-specific situations. Based on the findings, women athletes with higher levels of self-compassion generally do react, think, and feel in more healthy ways and less unhealthy ways when responding to both recalled and hypothetical difficult sport-specific scenarios. As such, the results provide further evidence that self-compassion might be an important resource for women athletes who face emotionally challenging situations in sport (Mosewich et al., 2011, 2013; Sutherland et al., 2014). We also found a pattern of results similar to that of Leary et al. (2007), which is a particularly robust finding for the potential importance of self-compassion across situations and samples, because unlike Leary et al., we focused specifically on women athletes and the recalled scenario we presented to participants was sport-specific. Of particular importance, self-compassion remained a significant predictor of most responses to both the hypothetical and recalled scenario after controlling for self-esteem and narcissism, supporting the growing body of evidence that self-compassion predicts variance beyond self-esteem on a wide variety of variables relevant to the sport (e.g., Mosewich et al., 2011) and exercise (e.g., Magnus, Kowalski, & McHugh, 2010) domains. The finding that self-compassion was not correlated with narcissism once self-esteem is partialled out is also consistent with previous research (e.g., Leary et al., 2007; Neff, 2003a; Neff & Vonk, 2009).

Perhaps the most important contribution made by this research is the finding that initial levels of self-compassion seemed to dominate women athletes' responses to emotionally difficult scenarios in sport. This was clearly evidenced in Phase I by the

Table 3
Follow-up hierarchical regression analysis (Phase II).

Criterion variable	B	SE B	β	R^2	ΔR^2
Behavioral Equanimity					
Step 1				.14**	.14**
Self-Esteem	.47	.15	.38**		
Step 2				.15	.00
Self-Esteem	.49	.16	.39**		
Induction	.27	.65	.05		
Step 3				.25*	.11*
Self-Esteem	.13	.20	.11		
Induction	.21	.61	.04		
Self-Compassion	.51	.18	.43**		
Thoughts					
Catastrophizing					
Step 1				.01	.01
Self-Esteem	.02	.03	.11		
Step 2				.01	.00
Self-Esteem	.02	.03	.11		
Induction	.00	.12	.00		
Step 3				.02	.01
Self-Esteem	.01	.04	.04		
Induction	.00	.12	.00		
Self-Compassion	.02	.04	.10		
Personalizing					
Step 1				.11*	.11*
Self-Esteem	−.08	.03	−.33*		
Step 2				.14	.03
Self-Esteem	−.07	.03	−.29*		
Induction	.17	.13	.17		
Step 3				.23*	.10*
Self-Esteem	−.01	.04	−.02		
Induction	.18	.12	.18		
Self-Compassion	−.10	.04	−.41*		
Equanimity					
Step 1				.14**	.14**
Self-Esteem	.09	.03	.37**		
Step 2				.15	.01
Self-Esteem	.09	.03	.34*		
Induction	−.11	.13	−.11		
Step 3				.16	.01
Self-Esteem	.07	.04	.27		
Induction	−.12	.13	−.12		
Self-Compassion	.03	.04	.12		
Humourous					
Step 1				.00	.00
Self-Esteem	.01	.02	.06		
Step 2				.01	.01
Self-Esteem	.01	.02	.08		
Induction	.06	.10	.08		
Step 3				.01	.00
Self-Esteem	.02	.03	.13		
Induction	.06	.10	.09		
Self-Compassion	−.01	.03	−.08		
Total negative affect					
Step 1				.13**	.13**
Self-Esteem	−.59	.20	−.37**		
Step 2				.14	.01
Self-Esteem	−.56	.21	−.35**		
Induction	.58	.84	.09		
Step 3				.26*	.12**
Self-Esteem	−.07	.25	−.04		
Induction	.65	.78	.10		
Self-Compassion	−.70	.23	−.46**		

*$p < .05$, **$p < .01$.

bivariate and semi-partial correlations between self-compassion and the athletes' responses to both the hypothetical and recalled scenarios, but also in Phase II whereby their initial levels of self-compassion were the dominant predictor of responses to the hypothetical scenario regardless of induction type. Our findings, therefore, provide support for Neff's (2003a) original conceptualization of self-compassion as trait-like, measured via the SCS. Although self-compassion is an important predictor of women athletes' reactions, thoughts, and emotions in response to emotionally difficult sport-scenarios, it might not be that easy to induce in this population, particularly with a brief induction procedure. The non-significant findings from our self-compassion induction were unexpected, as recent literature would suggest that one's self-compassion can be altered through brief inductions (e.g., Adams & Leary, 2007; Leary et al., 2007). Breines and Chen (2012) found that their self-compassion induction, which consisted largely of reflection and writing tasks, resulted in increased self-improvement motivation. Specifically, reacting self-compassionately to a failure, weakness, or transgression was more helpful than positive distraction and self-esteem. Breines and Chen concluded that self-compassion is a viable way to confront failures and weaknesses that may facilitate growth and improvement without leading to debilitating or maladaptive outcomes.

There are two important differences between our work and that of Leary et al. (2007) that might account for the relative ineffectiveness of the self-compassion induction found in our study. First, we specifically focused on a sample of women athletes, for whom the specific induction simply might be less effective. Second, and more likely, Leary et al. used the self-compassion induction in the context of a recalled event, whereas we used it in the context of a hypothetical scenario (i.e., being responsible for a team loss). Even though we are confident that the scenario used was relevant to athletes, it would no doubt lack the specific details that a personally recalled experience would contain. While we recognized this as a possibility going in, using the hypothetical scenario allowed us to keep the situation consistent across participants and time. This consistency was important given that we had a pre-post experimental design, something not done in Leary et al.'s self-compassion induction study. Nonetheless, research suggests that people are less accurate in predicting how they will react and feel in response to hypothetical scenarios (Wilson & Gilbert, 2003), which might have dampened the potential effectiveness of the induction. In addition, poor performance, injury, and performance plateau might be particularly salient scenarios to use in hypothetical scenarios, as they have been reported by women athletes as setbacks that are emotionally difficult and challenging to manage (Mosewich et al., 2014).

Taking into consideration both our results and the findings of Leary et al. (2007), whether a brief self-compassion induction can be effective in helping women athletes manage difficult sport experiences remains open for debate. Breines and Chen (2012) have also questioned whether a self-compassion induction can lead to sustained changes over time. Longer, sport-specific self-compassion interventions, such as the one developed by Mosewich et al. (2013), might be needed when working with athletes for reasons that are unclear at present. At minimum, other approaches to intervention should be considered when testing if and how self-compassion can have a positive impact on women athletes' sport experiences. Adams and Leary (2007) employed a self-compassion intervention that encouraged restrictive and guilty eaters to think in a more self-compassionate way, facilitated by a researcher led verbal script focusing on the self-kindness, common humanity, and mindfulness components of self-compassion. Therapeutic techniques such as compassionate mind-training (CMT) have also been used in attempts to increase self-compassion levels. CMT, a technique whereby individuals are taught to be understanding and accepting of their safety strategies when confronted with negative emotions, has demonstrated decreased levels of depression, anxiety, self-criticism, shame, inferiority, and submissive behavior, and increased self-soothing ability, feelings of warmth, and reassurance for the self with a sample of participants high in self-criticism and

shame (Gilbert & Procter, 2006). However, a limitation with Gilbert and Procter's (2006) CMT intervention is that it requires a series of 12 two-hour sessions, which may not be feasible in most research studies. In addition to not having been developed specifically for sporting samples, approaches like Neff and Germer's (2013) Mindful Self-Compassion Program 8-week workshop, face similar pragmatic limitations due to length of time required. There are also other brief self-compassion interventions, typically ranging from one week (e.g., Shapira & Mongrain, 2010) to three weeks (e.g., Albertson, Neff, & Dill-Shackleford, 2014; Smeets, Neff, Alberts, & Peters, 2014) in length, and hence longer than the lab-based mood induction procedures used by Leary et al. (2007) and in our Phase II but shorter than interventions like CMT or the Mindful Self-Compassion Program, that could be adapted for sports contexts.

Despite the potential benefits of self-compassion that our research and past research (e.g., Adams & Leary, 2007; Leary et al., 2007; Mosewich et al., 2011; Neff, 2003a, 2003b) have depicted, some athletes may require, or at least feel that they require, a level of self-criticism to achieve optimal performance in their respective fields (Ferguson et al., 2014; Mosewich et al., 2013). Moreover, some women athletes have expressed concerns with extending too much compassion towards the self, wary that self-compassion may be linked with passivity, or settling for mediocrity, in sport (Ferguson et al., 2014; Sutherland et al., 2014). Thus, there may be unique nuances and complexities in regards to the usefulness of self-compassion for women athletes. Gilbert, McEwan, Matos, and Rivis (2011) determined that people sometimes fear being compassionate towards themselves and others, and actively resist engaging in compassionate experiences or behaviors. Thus, while how best to intervene remains a goal, it will likely need to be accompanied by work that helps women athletes overcome fears of being too self-compassionate. This will remain a challenge, because as Neff (2003a) stated, the development of self-compassion requires a new way of relating to the self that is different from that of self-esteem. A limitation to our research is that we did not measure athletes' fear of self-compassion, which we recommend for future research. Future research could explore women athletes' fear of self-compassion in an attempt to disentangle the benefits and perceived pitfalls of self-compassion that may be unique to this particular population. Such research endeavors are important in the pursuit of helping women athletes deal with their difficult sport experiences.

Another recognized limitation of our study was the use of single item and two item measures for the assessment of some of the reactions and thoughts in both the hypothetical and recalled scenarios. Although our choice of measures was based on those previously developed by Leary et al. (2007), multi-item measures generally offer greater validity and reliability (Bergkvist & Rossiter, 2007). Also, multi-item measures are required to estimate internal consistency reliability for any given scale. Another limitation, although again driven by the decision to use measures developed by Leary et al., was that there were a different set of response measures for the hypothetical and recalled scenarios; thus making direct comparisons between the two types of scenarios more difficult. Also, while both our research and Leary et al.'s induction study had a self-compassion induction group, a self-esteem induction group, and a writing control group, Leary et al. also had a fourth group, a true control group. In Leary et al.'s true control group, participants simply described the recalled event and their feelings at the time. Our choice to include a writing control group only was based on Leary et al.'s finding of no significant differences between their writing control task group and their true control group, so it seemed somewhat unnecessary to have both. Also, the inclusion of the writing control group, rather than a true control group, was an attempt to provide a more stringent test of the self-compassion induction. However, in hindsight, given that the writing control group responses seemed to generally mirror those of the self-compassion and self-esteem induction groups, having data from a true control group to compare against would have been informative. We recommend that future research consider including a true control group either in addition or as an alternative to the writing control condition. Perhaps the true control group also needs to avoid any emotional reflection to further demarcate it from the self-compassion and self-esteem induction conditions. Despite these limitations, our research provides additional support for a growing body of evidence showing that women athletes with higher self-compassion levels generally respond in healthier ways to emotionally difficult situations in sport than their less self-compassionate counterparts. However, understanding how self-compassion develops, and how it could best be developed, among women athletes remains as an important focus for future research.

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