Self-Compassion in the Stress Process in Women Athletes

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While self-compassion presents as a viable resource for managing difficult events in sport, little is known about how it functions in the stress process. In 2 studies with women university athletes (N=122 and 131), the authors examined self-compassion as a prospective predictor of appraisal, coping, goal progress, and affect in a competition. Direct and indirect effects of self-compassion on aspects of the stress process were examined by testing full, partial, and moderated mediation models. Self-compassion plays a direct and indirect role in the stress process of competitive women athletes. Self-compassion significantly predicted higher control appraisals (Studies 1 and 2) and lower threat appraisals (Study 1), which explained coping tendencies of self-compassionate athletes. Sequential pathways linking appraisals and coping accounted for why athletes with higher self-compassion are more likely to have higher goal progress, more positive affect, and less negative affect. Overall, self-compassion promotes adaptive appraisals and coping.

Keywords: affect, appraisal, emotion, emotion regulation, female athletes, sport

Women athletes encounter many potentially stressful situations in competitive sport, such as body dissatisfaction, injury, bullying, eating disorders, coach conflicts, poor performance and performance plateau, self-criticism, and social comparisons, that are often accompanied by negative self-judgment, negative rumination, emotional disruption, and feelings of inadequacy (Mosewich, Crocker, & Kowalski, 2014; Sutherland et al., 2014; Tamminen, Holt, & Neely, 2013). Women athletes have acknowledged nuances in the demands and experiences they face in sport as being unique to women, as well as differences in resources and approaches that affect how they navigate the sport environment (e.g., Krane, Ross, Sullivan Barak, Lucas-Carr, & Robinson, 2014; Mosewich et al., 2014; Mosewich, Vangool, Kowalski, & McHugh, 2009). In addition, Warner and Dixon (2015) suggest that women tend to view and interpret competition settings differently than men, most notably with internal competition reportedly embraced by men but not women. As such, focused efforts to understand the stress process for women athletes is warranted.

Women who have not developed effective coping skills to manage sport-related demands may experience negative outcomes such as poor performance, high levels of distress, negative emotional patterns, and sport dropout (see Crocker, Tamminen, & Gaudreau, 2015). Therefore, the ability to manage or regulate the stress and emotional process is critical for athletes to achieve both their athletic goals and psychological well-being. Self-compassion has been related to positive psychological functioning and emotional well-being in women involved in sport (Ferguson, Kowalski, Mack, & Sabiston, 2014; Mosewich, Crocker, Kowalski, & DeLongis, 2013; Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011; Reis, Kowalski, Ferguson, Sabiston, Sedgwick, & Crocker, 2015) and has potential to support effective management of stress and emotion for women athletes.

Self-compassion is a multidimensional construct and consists of three key components: self-kindness, common humanity, and mindfulness (Neff, 2003b). Self-kindness involves being understanding and accepting, rather than harshly self-critical, toward oneself during adverse situations. Common humanity is the acknowledgement that one’s experiences are not isolating, as others also find themselves in similar circumstances. Mindfulness in the context of self-compassion involves keeping thoughts and feelings in balance rather than overidentifying with them or engaging in avoidance. These three components are interrelated and in combination compose the construct of self-compassion. Self-compassion is assumed to be most relevant when one is dealing with negative events (Neff, 2003b). As such, the setbacks, failures, challenges, and evaluation that are ubiquitous to sport present an area where self-compassion may be advantageous to competitive athletes in their coping efforts (Mosewich et al., 2014). This implies that self-compassion might be related to stress through direct or indirect effects on appraisal, coping, affect, and goal progress. However, little empirical attention has been allocated to investigating this important theoretical position in sporting populations. Thus, the present studies explored the relations between self-compassion, athletic goal progress, and the stress process in competition to advance understanding of the mechanisms through which self-compassion influences emotional adjustment of women athletes (see Figure 1).

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Self-compassion in the Stress Process

Self-compassion may be an important resource in sport, particularly in the stress process. Lazarus’s cognitive-motivational-relational theory of emotion (see Lazarus, 2000 for an overview in sport) provides a useful foundation on which to consider the role of self-compassion. In brief, Lazarus (1999, 2000) conceptualized stress, coping, and emotion as interrelated, affected by the dynamic interplay among the environment, individuals, and their reactions to that environment. Situations and the people embedded within them give rise to appraisal and, if relevant, coping efforts, as well as resultant emotions. Each aspect is recursive, highlighting the complexity of stress, coping, and emotion, as well as their iterative nature.

As an established personal resource, self-compassion could have an influence at various points in the stress process, including the appraisal of situations, the choice and options in coping efforts, or as a coping resource or strategy (Allen & Leary, 2010). Athletes face a variety of demands such as performance difficulties, injuries, illnesses, personal and significant others’ expectations, interpersonal conflict, and organizational-level struggles that may be appraised as stressful (see Sarkar & Fletcher, 2014, for a review). These demands present the potential to experience failure, with cognitive appraisal of the demands a key factor in the stress process (Lazarus, 2000; Neil, Hanton, Mellalieu, & Fletcher, 2011). Appraisals of threat, or an anticipated potential for loss or harm (see Lazarus, 2000), are often associated with negative affect, avoidance, decreased coping expectancies, and lack of achievement. Conversely, appraisals of challenge (anticipation of a difficult but attainable gain; see Lazarus, 2000) and control (an individual’s efficacy evaluation of personal coping resources in meeting the demands of the situation; Folkman, 1984) are typically associated with positive affect, adaptive coping, and intention to continue sport participation (Kim & Duda, 2003). Self-compassion is purported to promote accurate and adaptive perceptions or appraisals of situations (Neff, 2003b). When one encounters difficult situations, self-compassion may lead to the appraisal or reappraisal of the situations as less threatening and more controllable (Allen & Leary, 2010). However, such a proposition has not been empirically examined in sport.

Self-compassion has also been aligned conceptually with cognitive restructuring, as individuals high in self-compassion view negative events in a less catastrophic way than do those low in self-compassion (Allen & Leary, 2010; Neff, Hseih, & Dijithirat, 2005). Based on recent empirical work, researchers have found that positive reframing and acceptance, both of which are adaptive cognitive-restructuring strategies, were positively associated with self-compassion and these strategies resulted in better coping efficacy and less perceived stress (Sirois, Molnar, & Hirsch, 2015). Taken as a whole, self-compassion appears to be associated with appraisal processes, but again, the relations in the sport context are unknown.

Self-compassion may also have direct connections to stress management. Effective stress management requires cognitive and behavioral coping skills to regulate emotions and govern cognitions and actions (Rumbold, Fletcher, & Daniels, 2012). There is a general agreement that coping is a conscious, effortful process used to regulate emotions, cognitions, behavior, and the environment during stressful transactions (Lazarus & Folkman, 1987; Skinner & Zimmer-Gembeck, 2007). Lazarus and colleagues (Lazarus, 1999; Lazarus & Folkman, 1984) suggested that specific strategies could be considered under the two broad functions of problem-focused and emotion-focused coping. Problem-focused coping is directed toward changing the situational demands and/or the behavior of the athlete. Emotion-focused coping involves strategies that attempt to control emotion. Some sport researchers have also included avoidance coping (Kowalski & Crocken, 2001). A second classification system often used in sport research was proposed by Gaudreau and Blondin (2004) and includes three higher-order dimensions. Task-oriented coping consists of strategies that directly deal with the sport situation and cognitions/emotions, whereas disengagement-oriented coping involves avoidance and active withdrawal strategies. The third dimension is termed distraction-oriented coping and involves strategies that focus attention on information and efforts unrelated to the stressful transaction.

Examination of self-compassion and coping strategies and functions is still in its infancy. Although research is scarce, there is evidence for a negative relation between self-compassion and avoidance coping. For example, self-compassion has been negatively related to avoidance coping in students (Neff et al., 2005), athletes (Huysman & Clement, 2017), and individuals with chronic illness (Sirois, Molnar et al., 2015). However, the connections between self-compassion and problem-focused and emotion-focused coping remain somewhat ambiguous, with equivocal results presented in the limited research. On one hand, self-compassion is positively associated with optimism, curiosity, exploration, and personal initiative (Neff, Rude, & Kirkpatrick, 2007), which all are predictors of problem-focused coping (Allen & Leary, 2010). Self-compassion is also positively related to responsibility and initiative, and negatively related to passivity, in women athletes (Ferguson et al., 2014). However, while self-compassion is related to variables that suggest taking action against problems, self-compassion does not significantly correlate with problem-focused coping strategies such as active coping, planning, suppression of competing activities, restraint coping, and seeking instrumental support (Neff et al., 2005). Huysmans and Clement (2017) also reported a negative relation between self-compassion and both problem-focused and emotion-focused coping in their sample of athletes. While there are many possibilities for these inconsistent findings, one viable consideration lies in the context-specific nature of stress and coping. There is a need to specifically examine key relations between self-compassion and stress and coping at times—such as during competitions—when athletes are facing demands and...
motivationally relevant stressful situations likely to trigger appraisals and coping processes.

Questions remain surrounding the role of self-compassion in the stress process. However, a self-compassionate approach appears to have a role in the management of negative events. Understanding the mechanisms behind the adaptive outcomes associated with self-compassion is essential to identify potential targets for intervention and inform applied work with athletes. It is also important to advance research on stress by evaluating the extent to which self-compassion should be considered an adaptive personal resource for coping and stress-management interventions.

Present Research

With an aim to further understand the role of self-compassion in the stress process, and in sport specifically, two studies were conducted that explored self-compassion in a stress and coping framework. In both studies, we adopted a prospective design that allowed for examination of trait self-compassion in advance of a competitive event and stands to introduce fewer sources of bias and confounding variables than would a retrospective approach. Our aim was to examine the role of self-compassion in the stress process. Self-compassion was expected to be positively related to control appraisals, as well as positive affect (Allen & Leary, 2010; Neff, 2011). Negative relations were expected between self-compassion and threat appraisals, avoidance coping, and negative affect (Allen & Leary, 2010; Neff, 2011; Neff et al., 2005). Due to the equivocal results of past research, correlations between self-compassion and problem- and emotion-focused coping were positioned as more exploratory. However, we hypothesized a positive association considering that self-compassion can be positioned as an adaptive personal coping resource. Our proposed theoretical model is presented in Figure 1. We examined self-compassion as a prospective predictor of aspects of the stress process, specifically control and threat-appraisal processes, coping function (problem- and emotion-focused), and affect (positive and negative), as well as avoidance, in a specific competition. Given that self-compassion is especially relevant during times of difficulty or failure (Neff, 2003b), goal progress was also included in the model. The mechanism through which self-compassion affects stress, coping, and emotion is unknown, and as such we explored a full mediation model (a model without a direct path from the independent variable to the dependent variable); a partial mediation model (a model with a direct path) examining the indirect effects of self-compassion on coping, goal progress, and affect; and a moderated mediation model examining whether self-compassion moderates the relationships between appraisals and coping, coping and goal progress, and goal progress and affective states. The purpose of Study 2 was to further explore the relations between self-compassion and the coping process within the same theoretical framework (see Figure 1), but this time considering the other common taxonomy of coping function in sport: task-oriented, disengagement-oriented, and avoidance-oriented coping.

Study 1

Method

Procedure. After we obtained ethical approval from the university research board, varsity-level athletes were recruited for this prospective study through team visits and e-mails. At Time 1, athletes provided informed consent and completed the Self-Compassion Scale in a paper-questionnaire format in a team setting. Approximately 4 weeks later (Time 2), the coping, appraisal, affect, and perceived goal-progress measures were completed at the athletes’ convenience using a secure online survey tool within 24 hr of participating in a competition. The 4-week and 24-hr timelines served to standardize response frames among participants, as well as to mitigate response bias between questionnaires (for the former) and support accuracy of recall (for the latter). Athletes were provided a small honorarium for completing the first questionnaire.

Participants. Participants were 122 women athletes involved in varsity sport in Canada (M_{age} = 19.73 years, SD = 1.53 years, range = 17–24 years) ranging from first to fifth year of eligibility (M_{year} = 2.28, SD = 1.30). All athletes were in the competitive season for their varsity sport at the time of the study, which included basketball (10.7%), cross-country (13.1%), field hockey (11.5%), golf (5.7%), ice hockey (3.3%), rugby (10.7%), soccer (16.4%), softball (12.3%), swimming (9.8%), and track and field (6.6%). Sixteen athletes had made a national team. Athletes identified as White (91.8%), Japanese (4.1%), Chinese (3.3%), South Asian (2.5%), Aboriginal (1.6%), Black (1.6%), Filipino (1.6%), Korean (0.8%), and South-East Asian (0.8%). They had the option to identify with more than one sport.

Measures. General demographic (age, sociocultural information) and sport-specific information (type of sport, level of sport participation, year of eligibility in the varsity system) were collected. Participants were asked to provide an e-mail address, which was used to contact participants for the second assessment, as well as match responses from the two time points.

Self-compassion (Time 1). Self-compassion was measured using the Self-Compassion Scale (Neff, 2003a), a 26-item scale consisting of six subscales. Three subscales include the three components 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”). The other three subscales are in direct opposition of the three components of self-compassion (respectively): 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”). Athletes were to indicate how they “typically act toward themselves during difficult times.” Response sets range from 1 (almost never) to 5 (almost always; Neff, 2003a). Total self-compassion scores were calculated by reverse-scoring the negative subscale items (self-judgment, isolation, and overidentification) and then computing a total mean. Validity and reliability evidence has been supported (Neff, 2003a).

Coping (Time 2). The Coping Function Questionnaire (CFQ) is a sport-specific instrument (Kowalski & Crocker, 2001) that we modified slightly to assess coping functions specific to a particular competition. The CFQ has 18 items assessing three functions of coping: problem-focused (6 items; e.g., “I tried to find a way to change the competition”), emotion-focused (7 items; e.g., “I tried to view the competition in a way that made it seem less stressful”), and avoidance (5 items; e.g., “I tried to get out of the competition as soon as I could to reduce the stress”). Item responses range from

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in the general adult population (Crawford & Henry, 2004). Support in a varsity athlete sample has also been established.

In the present study (e.g., “You advanced toward your athletic goals”) collectively provide a mean score for goal progress. 

Internal consistency and factorial validity support for the measure has been established (Dugas et al., 2012).

Cognitive appraisal (Time 2). Cognitive appraisals of competition demands were assessed using scales based on the Stress Appraisal Measure (Peacock & Wong, 1990). Eight items were modified to reflect athlete competition settings and assessed threat and control appraisal. Two items were eliminated from analysis due to problems with reliability (i.e., low Cronbach’s alpha), resulting in a 6-item measure (3 items each for threat [e.g., “I perceived this stressful competition as threatening”] and perceived control [e.g., “I believed I had the skills necessary to overcome this stressful competition”]). Participants respond on a 5-point scale (1 = not at all true to 5 = extremely true), and mean scores for each type of appraisal were calculated.

Positive and negative affect (Time 2). The Positive and Negative Affect Schedule was used to assess affect (Watson, Clark, & Tellegen, 1988). The tool contains 10 items measuring positive affect (e.g., excited, alert, enthusiastic) and 10 items reflecting negative affect (e.g., nervous, hostile, upset), with participants responding to each on a 5-point scale (1 = very slightly or not at all to 5 = extremely). Mean scores for positive and negative affect were calculated. State affect surrounding a recent sport competition was assessed in the present study (e.g., “Indicate to what extent you felt this way during the competition”). Reliability support in a varsity athlete sample has also been established (Lemyre, Treasure, & Roberts, 2006), as well as construct validity in the general adult population (Crawford & Henry, 2004).

Data Analysis. Descriptive statistics were analyzed using SPSS version 25. All other analyses were performed using structural equation modeling (SEM) with manifest variables in MPLUS (the syntax for final models is provided as Supplementary Material [available online]). Despite our small samples, SEM with MPLUS was preferred to multiple regression with PROCESS because the former offers the robust FIML estimator to correct for potential nonnormality of the data while handling the missing data (Hoyle, 1999). In contrast, PROCESS handles missing data with listwise deletion, which is known to reduce statistical power and bias both parameter estimates and their statistical significance (Schlomer, Bauman, & Card, 2010). Furthermore, multiple regression only tests fully saturated models (df = 0), whereas SEM allows deletion of nonsignificant paths to estimate fit indices (df > 0), reduce the number of parameters estimated, and retain more parsimonious models (for a complete comparison of SEM and PROCESS, see Hayes, Montoya, & Rockwood, 2017). Bivariate linear relationships were examined through Pearson product–moment correlation coefficients. In a first set of SEM, we tested a full mediation model in which we freely estimated the links between adjacent variables in the model. Nonsignificant paths were deleted from the analyses. In a second set of SEM, we tested a partial mediation model in which we freely estimated the links between nonadjacent variables in the model. Nonsignificant paths were deleted from the analyses. In a third set of SEM, we tested a moderated mediation model in which self-compassion moderated the links between appraisals and coping, coping and goal progress, and goal progress and affective states. The two appraisals, the two coping, and the two dependent variables were allowed to correlate through correlating their residuals. However, all correlated residuals were deleted from the models because they did not reach statistical significance. Multiple fit indices provided a basis for evaluation of model fit (see Marsh, Martin, & Jackson, 2010). Root-mean-square errors of approximation (RMSEA) of <0.05 and <0.08 are typically interpreted as representing good and reasonable model fit, respectively. Values >0.90 and .95 for the Tucker-Lewis Index (TLI) and the comparative fit index (CFI) are typically interpreted as representing acceptable and excellent fit, respectively. A nonsignificant maximum-likelihood robust (MLR) chi-square statistic (MLRχ²) supports an acceptable model.

Results

Of the sample of 122 athletes who participated at Time 1, 97 also participated at Time 2 (79.5% retention). We compared the 97 participants who completed Time 1 with the 25 participants who did not complete Time 2. The two groups had similar Time 1 self-compassion scores (F = 2.23, p = .120; M = 2.88, SD = 0.58 vs. M = 2.68, SD = 0.51), age (F = 0.39, p = .53; M = 19.73, SD = 1.53 vs. M = 19.52, SD = 1.50), and year of eligibility (F = 0.08, p = .78; M = 2.28, SD = 1.29 vs. M = 2.36, SD = 1.19). No outliers were present. Therefore, all participants were kept in the analyses and missing data were handled with full information maximum likelihood, which provides more precise estimates and standard errors than listwise deletion (Schlomer et al., 2010).

Means and standard deviations of all variables are provided in Table 1, along with Cronbach’s alpha values for internal-consistency reliability estimates. Self-compassion was positively related to control appraisal and negatively related to threat appraisal, avoidance coping, and negative affect (see Table 1).

The full mediation model (Model 1) provided an unacceptable model fit: MLR χ² = 75.791, df = 23, p < .001, CFI = .658, TLI = .465, RMSEA = .137 (.104, .172), standardized root-mean-square residual (SRMR) = .133. Eleven of the 13 paths between adjacent variables were statistically significant (p < .05). In a second full mediation model (Model 1B), the nonsignificant paths from problem-focused and emotion-focused coping to goal progress were deleted. This model was more parsimonious but also provided an unacceptable model fit: MLR χ² = 80.24, df = 25, p < .001, CFI = .642, TLI = .485, RMSEA = .135 (.102, .168), SRMR = .141.

The first partial mediation model (Model 2) added all of the possible paths between nonadjacent variables. This model provided a good fit: MLR χ² = 5.108, df = 7, p = .647, CFI = 1.000, TLI = 1.063, RMSEA = .000 (.000, .091), SRMR = .033. Five of the 18 paths between nonadjacent variables were statistically significant (p < .05). In a second partial mediation model (Model 2B), the nonsignificant paths were deleted. This model was more parsimonious and still provided a good fit: MLR χ² = 11.736, df = 20, p = .925, CFI = 1.000, TLI = 1.096, RMSEA = .000 (.000, .026), SRMR = .047. These results are presented in Figure 2. Tests of indirect effects with bias-corrected bootstrapped 95% confidence intervals are reported in Table 2 to evaluate the mediating pathways between self-compassion and coping, self-compassion and goal progress, and self-compassion and both positive and negative affect.

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Finally, in the moderated mediation model (Model 3), we evaluated whether self-compassion moderated the relationships between appraisals and coping, coping and goal progress, and goal progress and affective states. None of the 11 moderating effects reached statistical significance. The fit of this model was not acceptable: MLR $\chi^2 = 76.36$, $df = 41$, $p < .001$, CFI = .824, TLI = .640, RMSEA = .084 (.054,.113), SRMR = .068. Given the lack of support for the moderating role of self-compassion, we retained the partial mediation model (Model 2B) as our final model for interpretation because it offered good fit and was more parsimonious.

**Summary of Findings**

Through interpretation of the findings of Study 1, it appears that self-compassion plays a direct and indirect role in the stress process of competitive athletes. First, it significantly predicts higher control appraisals and lower threat appraisals. The appraisals associated with self-compassion play an important role in explaining why self-compassion differentially relates to coping functions, goal progress, and affective states. Control appraisal explains why athletes with higher self-compassion tend to use more problem-focused and emotion-focused coping and less avoidance-focused coping. Threat appraisal explains why athletes with lower self-compassion tend to use more avoidance-focused coping. The complex chain of intervening variables linking appraisals and avoidance-focused coping also explains why individuals with higher self-compassion are more likely to have higher goal progress, more positive affect, and less negative affect. Overall, self-compassion can be seen as an important coping resource that promotes the adaptive appraisals and coping generally involved in promoting sport success and emotional adjustment.

In this study, both problem-focused coping and emotion-focused coping were mostly inconsequential in predicting both goal progress and affective states. Only avoidance-focused coping significantly correlated with goal progress. However, this study did not examine specific coping strategies of athletes, which could explain why broader and more general measures of coping functions did not significantly predict goal progress. In Study 2, we aimed to examine the proposed model in Figure 1, this time with a coping measure capturing many coping strategies regrouped into task-, distraction-, and disengagement-oriented coping.
Table 2  Study 1: 95% Biased Corrected Bootstrapped Indirect Effects From the Partial Mediation Model (Model 2B)

<table>
<thead>
<tr>
<th>Effect and pathways</th>
<th>Estimate</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 self-compassion → T2 problem-focused coping</td>
<td>0.110*</td>
<td>(0.018, 0.265)</td>
</tr>
<tr>
<td>T2 control</td>
<td>0.110*</td>
<td>(0.018, 0.265)</td>
</tr>
<tr>
<td>T2 threat</td>
<td>-0.103*</td>
<td>(-0.250, -0.020)</td>
</tr>
<tr>
<td>T1 self-compassion → T2 emotion-focused coping</td>
<td>0.070*</td>
<td>(0.011, 0.180)</td>
</tr>
<tr>
<td>T2 control</td>
<td>0.070*</td>
<td>(0.011, 0.180)</td>
</tr>
<tr>
<td>T2 threat</td>
<td>-0.084*</td>
<td>(-0.194, -0.019)</td>
</tr>
<tr>
<td>T1 self-compassion → T2 avoidance-focused coping</td>
<td>-0.116*</td>
<td>(-0.284, -0.020)</td>
</tr>
<tr>
<td>T2 control</td>
<td>-0.116*</td>
<td>(-0.284, -0.020)</td>
</tr>
<tr>
<td>T2 threat</td>
<td>-0.122*</td>
<td>(-0.268, -0.030)</td>
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<tr>
<td>T1 self-compassion → T2 goal progress</td>
<td>0.052*</td>
<td>(0.002, 0.180)</td>
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<tr>
<td>T2 control</td>
<td>0.052*</td>
<td>(0.002, 0.180)</td>
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<tr>
<td>T2 threat</td>
<td>0.054*</td>
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<td>T1 self-compassion → T2 positive affect</td>
<td>0.095*</td>
<td>(0.001, 0.036)</td>
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<tr>
<td>T2 control</td>
<td>0.095*</td>
<td>(0.001, 0.036)</td>
</tr>
<tr>
<td>T2 threat</td>
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<td>(0.001, 0.038)</td>
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<td>(0.018, 0.172)</td>
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<tr>
<td>T2 control</td>
<td>0.061*</td>
<td>(0.018, 0.172)</td>
</tr>
<tr>
<td>T2 control</td>
<td>0.100*</td>
<td>(0.015, 0.256)</td>
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<tr>
<td>T1 self-compassion → T2 negative affect</td>
<td>-0.005</td>
<td>(-0.021, 0.000)</td>
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<tr>
<td>T2 control</td>
<td>-0.143*</td>
<td>(-0.291, -0.043)</td>
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</table>

Note: All parameters are unstandardized. *p < .05.

Study 2

Method

Procedure. Study 2 followed the same procedure and prospective design as outlined in Study 1, with the only deviation being the inclusion of the different measures. During the regular season in the academic year after Study 1, a separate sample of women athletes involved in Canadian varsity sport was recruited from different teams.

Participants. A separate sample from that of Study 1 of women athletes involved in Canadian varsity sport was recruited (N = 131; M<sub>age</sub> = 20.13 years, SD = 2.394, range = 17–24 years). Athletes ranged from first to fifth year of eligibility (M<sub>year</sub> = 2.28, SD = 1.25), and 10 had made a national team. Athletes participated during their competitive seasons in the sports of basketball (29.0%), cheerleading (3.1%), ice hockey (16.7%), swimming (8.4%), track and field (24.4%), and volleyball (18.3%). Athletes identified as White (84.0%), South Asian (14.0%), Chinese (7.8%), Black (6.2%), South-East Asian (5.4%), and Filipino (3.9%), and 2.3% identified as "other" and could select more than one response.

Measures. General demographic information identical to that in Study 1 was collected, and self-compassion was measured using the Self-Compassion Scale (Neff, 2003a), at time 1 as outlined in Study 1.

Coping (Time 2). The Coping Inventory for Competitive Sport (Gaudreau & Blondin, 2002) contains 10 scales assessing thought and actions during competition that can be clustered under three higher-order dimensions of coping: task-oriented (23 items; thought control [e.g., “I tried to get rid of my doubts by thinking positively”], mental imagery [e.g., “I visualized that I was in total control of the situation”], relaxation [e.g., “I did some relaxation exercises”]), effort expenditure [e.g., “I gave a relentless effort”], logical analysis [e.g., “I analyzed my past performances”], seeking social support [e.g., “I asked other athletes for advice”]), distraction-oriented (8 items; mental distraction [e.g., “I thought about my family, my friends, or others to distract myself”], social withdrawal/distancing [e.g., “I distanced myself from other athletes”]), and disengagement-oriented (8 items; venting of unpleasant emotions [e.g., “I expressed my discontent”], disengagement/resignation [e.g., “I let myself feel hopeless and discouraged”]). Participants respond on a 5-point scale (from 1 = not at all to 5 = very strongly), and mean scores were calculated. Validity evidence for scores has been demonstrated in adolescent and young-adult athletes (Gaudreau & Blondin, 2002, 2004).

Athlete-perceived goal progress (Time 2). Perceived goal progress was assessed using the Attainment of Sport Achievement Goal Scale (see Gaudreau & Blondin, 2004), which contains three subscales that capture mastery experiences (e.g., “Executed my movements correctly”), intrapersonal comparison (e.g., “Did better than my previous performances”), and interpersonal comparison (e.g., “Outperformed other athletes”). Since subscales tend to be moderately correlated, scores from all 12 items are typically summed. Items are scored on a 7-point Likert scale ranging from 1 (not at all) to 7 (very strongly). Validity evidence of scores
for athletes has been demonstrated in several studies (e.g., Schellenberg, Gaudreau, & Crocker, 2013).

Cognitive appraisal (Time 2). Using a similar approach to Study 1, cognitive appraisals of competition demands were assessed using items based on the Stress Appraisal Measure (Peacock & Wong, 1990). Once again, 8 items were modified to reflect athlete competition settings, with 1 being omitted from analysis due to problems with reliability (i.e., low Cronbach’s alpha), resulting in a 7-item measure assessing threat (4 items [e.g., “I perceived this competition as threatening”]) and control appraisal (3 items [e.g., “I believed I had what it takes to beat this stressful situation”]), similar to Study 1 (albeit with some differences among the items). Responses were collected on a 5-point scale from 1 (very slightly or not at all) to 5 (extremely), and mean scores for each type of appraisal were calculated.

Positive and negative affect (Time 2). The Positive and Negative Affect Schedule (Watson et al., 1988) measured positive and negative affect, as explained in Study 1.

Data Analysis. We followed the plan of analyses as per Study 1. The two appraisals, the two coping, and the two dependent variables were allowed to correlate by correlating their residuals. However, only the correlated residuals between the three coping variables were significant and kept in the analyses.

Results

Of the sample of 131 athletes who participated at Time 1, 104 also participated at Time 2 (79.4% retention). When the 104 participants who completed Time 1 were compared with the 27 participants who did not complete Time 2 it was established that the two groups had similar Time 1 self-compassion scores ($F = 0.62$, $p = .43$; $M = 2.97$, $SD = 0.57$ vs. $M = 2.87$, $SD = 0.62$), age ($F = 0.80$, $p = .37$; $M = 20.13$, $SD = 2.39$ vs. $M = 20.65$, $SD = 3.57$), and year of eligibility ($F = 0.08$, $p = .78$; $M = 2.27$, $SD = 1.26$ vs. $M = 2.35$, $SD = 1.20$). Therefore, all participants were kept in the analyses and missing data were handled with full information maximum likelihood. Our examination of outliers indicated that 1 participant had an aberrant score on Time 1 self-compassion ($Z = 3.28$) and 2 participants had a significant Mahalanobis distance ($\chi^2 > 27.88$, $p < .001$) on their multivariate responses. These three participants were therefore excluded from subsequent analyses to minimize the risk of Type I and Type II errors.

Means and standard deviations of all variables for the 128 athletes are provided in Table 3, along with Cronbach’s alpha values for internal-consistency reliability estimates. While significant correlations between self-compassion and key study variables were also limited, self-compassion was positively related to control appraisal and negatively related to negative affect (see Table 3).

The first full mediation model (Model 1) reflected an unacceptable model fit: $MLR \chi^2 = 106.066$, $df = 20$, $p < .001$, $CFI = .613$, $TLI = .303$, $RMSEA = .183 (.150, .218)$, $SRMR = .141$. Nine of the 13 paths between adjacent variables were statistically significant ($p < .05$). In a second full mediation model (Model 1B), the following nonsignificant paths were deleted: self-compassion to threat, control appraisal to distraction-oriented coping, threat appraisal to task-oriented coping, and goal progress to negative affect.

This model was more parsimonious but also provided an unacceptable model fit: $MLR \chi^2 = 113.088$, $df = 24$, $p < .001$, $CFI = .599$, $TLI = .398$, $RMSEA = .170 (.139, .203)$, $SRMR = .148$. Partial mediation models reflected better model fit. The first partial mediation model (Model 2) added all of the possible paths between nonadjacent variables. This model provided a good fit: $MLR \chi^2 = 6.252$, $df = 6$, $p = .396$, $CFI = .999$, $TLI = .993$, $RMSEA = .018 (.000, .117)$, $SRMR = .043$. Six of the 18 paths between nonadjacent variables were statistically significant ($p < .05$) and two were close to statistical significance ($p < .06$). A second partial mediation model (Model 2B) retained these eight paths while the others were deleted. This model was more parsimonious and still provided a good fit: $MLR \chi^2 = 15.860$, $df = 16$, $p = .463$, $CFI = .100$, $TLI = 1.001$, $RMSEA = .000 (.000, .081)$, $SRMR = .060$.

Fit indices for the moderated mediation model (Model 3) were not acceptable: $MLR \chi^2 = 254.22$, $df = 54$, $p < .001$, $CFI = .535$, $TLI = .147$, $RMSEA = .170 (.149, .192)$, $SRMR = .118$. However, one of the 11 moderating effects reached statistical significance. Self-compassion moderated the relation between threat and distraction-oriented coping ($B = -0.549$, $SE = 0.160$, $p = .001$). Therefore, we decided to incorporate this interactive effect in a revised version of the best-fitting partial mediation model (i.e., Model 2B).

The fit of this partial moderated mediation model (Model 3B) was good: $MLR \chi^2 = 20.009$, $df = 22$, $p < .583$, $CFI = 1.00$, $TLI = 1.018$, $RMSEA = .000 (.000, .066)$. This model was retained as the best-fitting model and the results are presented in Figure 3. Self-compassion moderated the relation between threat and distraction-oriented coping ($B = -0.416$, $SE = 0.143$, $p = .004$). As shown in Figure 4, simple slope analyses showed that threat appraisal was significantly associated with distraction-oriented coping for athletes with low levels of self-compassion ($B = 0.630$, $SE = 0.135$, $p < .001$) but not for athletes with high levels of self-compassion ($B = 0.170$, $SE = 0.170$, $p = .116$). Tests of indirect effects with bias-corrected bootstrapped 95% confidence intervals (CIs) were then computed. The results indicated that self-compassion moderated the relation between threat and distraction-oriented coping ($B = -0.148$, $SE = 0.056$, $CI = -0.262$ to $-0.034$, $p = .003$).

Table 3: Study 2: Means, Standard Deviations, Cronbach’s Alpha Values, and Correlations for Self-Compassion (Time 1) and Goal Progress, Appraisal, Coping, and Affect (Time 2)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>$\alpha$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. T1 self-compassion</td>
<td>2.939</td>
<td>0.552</td>
<td>.91</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>2. T2 control appraisal</td>
<td>3.745</td>
<td>0.763</td>
<td>.82</td>
<td>.326**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. T2 threat appraisal</td>
<td>1.697</td>
<td>0.610</td>
<td>.71</td>
<td>-.143</td>
<td>-.077</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>4. T2 task-oriented coping</td>
<td>3.149</td>
<td>0.530</td>
<td>.84</td>
<td>.056</td>
<td>.314**</td>
<td>-.104</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>5. T2 distraction-oriented coping</td>
<td>1.890</td>
<td>0.632</td>
<td>.79</td>
<td>-.166</td>
<td>-.161</td>
<td>.387**</td>
<td>.242**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. T2 disengagement-oriented coping</td>
<td>1.837</td>
<td>0.596</td>
<td>.80</td>
<td>-.060</td>
<td>-.362**</td>
<td>.255**</td>
<td>.159</td>
<td>.415**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. T2 goal progress</td>
<td>3.911</td>
<td>1.230</td>
<td>.94</td>
<td>.092</td>
<td>.397**</td>
<td>.016</td>
<td>.376**</td>
<td>.154</td>
<td>-.257**</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8. T2 positive affect</td>
<td>3.755</td>
<td>0.718</td>
<td>.89</td>
<td>.083</td>
<td>.546**</td>
<td>-.234**</td>
<td>.513**</td>
<td>-.166</td>
<td>-.218*</td>
<td>.445**</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9. T2 negative affect</td>
<td>1.979</td>
<td>0.573</td>
<td>.79</td>
<td>-.191*</td>
<td>-.318**</td>
<td>.270**</td>
<td>.279**</td>
<td>.298**</td>
<td>.515**</td>
<td>-.103</td>
<td>-.015</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. $N = 128$. Correlations of .174 and .227 are significant at $p < .05$ and $p < .01$, respectively.
confidence intervals are reported in Table 4 to evaluate the mediating pathways between self-compassion and coping, self-compassion and goal progress, and self-compassion and both positive and negative affect.

**Summary of Findings**

The results of Study 2 provide further insight into the role of self-compassion in the stress process. While significant correlations between self-compassion and key study variables were limited, and in some cases inconsistent with Study 1 (e.g., no significant relation was found with threat appraisal), one viable consideration links to the complexity of the stress process itself. Perhaps the role of self-compassion in the stress process cannot be reduced to simple bivariate correlations, and the relationships among groups of variables need to be considered. Our exploration of mediation and moderated mediation models supports both a direct and an indirect role of self-compassion in the stress process of competitive athletes. First, it significantly predicts higher control appraisals, echoing the findings of Study 1. Control appraisal explains why competitive women athletes with higher self-compassion tend to use more task-oriented coping and less disengagement-oriented coping. However, contrary to Study 1, threat appraisal did not explain why athletes with lower self-compassion tend to use more disengagement-oriented coping; self-compassion was not significantly related to threat appraisals. Based on the findings from Study 2 it seems that the role of self-compassion fits within a rather complex chain of interrelated mechanisms linking control appraisals with both task-oriented and disengagement-oriented coping. This pathway explains why individuals with higher self-compassion are more likely to have higher goal progress, more positive affect, and less negative affect. Overall, self-compassion can be seen as an important coping resource with an association to appraisals (control) and coping (higher task-oriented coping and lower disengagement-oriented coping) generally involved in promoting sport success and emotional adjustment.

One additional finding in Study 2 merits additional comment. Task-oriented coping was positively associated with goal progress and positive affect but also with negative affect. The latter was unexpected. This relation between task-oriented coping and negative affect is a real finding (not a suppression effect) because the bivariate correlation was also positive and significant. However, while perhaps initially surprising, this finding could be taken as another illustration of the importance of exploring coping effectiveness in future research. Athletes may be engaging in task-oriented coping, but if their coping efforts are perceived as ineffective, negative affect may still occur.

**General Discussion**

The purpose of this study was to examine the role of self-compassion in the stress process. The findings advance our understanding of
Self-Compassion and Appraisal

Self-compassion is associated with adaptive appraisals in the sport competition context. It was consistently positively related to control appraisals, and there was some evidence of a negative association with threat appraisals. This provides more support for the contention that self-compassion is associated with adaptive frames of mind (Neff, 2003b), positioning athletes to manage and negotiate stressful sport situations. Self-compassionate people are thought to appraise situations in a more positive manner, which enables effective coping, as self-regulatory resources are not compromised due to negative self-evaluations and affect that can arise during times of failure or stress (Sirois, Kitner, & Hirsch, 2015). Although causation cannot be implied from this study, an important applied implication arising from these results is the potential of self-compassion in prompting adaptive and accurate appraisals in sport. Another consideration is that less threatening and negative appraisals might also make it easier to adopt a self-compassionate perspective.

The equivocal findings regarding self-compassion and threat appraisals between Study 1 and Study 2 merit further consideration. The potential range of demands experienced or recalled by the athletes might be a factor. All types of appraisals will be heavily driven by the perceived demands of the specific competition (cf. Lazarus & Folkman, 1984), and self-compassion might be most relevant to appraisal processes when a setback occurs or when there is impending failure. We considered control and threat appraisal, but the importance of also understanding challenge, harm, and loss appraisals cannot be overlooked. The correlations between appraisal variables and self-compassion were small to moderate, and the lack of relation may also merely reflect a lack of power to detect a small effect. We also adopted a different measurement approach for appraisal and goal progress in Study 2. This was an attempt to improve assessment based on insight gleaned from Study 1; however, it must be acknowledged that some differences in findings may be due to our use of slightly different measures across the studies. Timing of the measurement of appraisal also warrants consideration. In the present study, athletes needed to recall appraisal retrospectively from a predetermined set of items reflecting threat and perceived control. Future research designs with appraisal measured immediately prior to or during the competition will provide additional strength in terms of the consideration of the temporal element, limiting bias and decay in recall. Finally, while the present study took place during regular-season competitions (i.e., no preseason or championship competitions were included), the demands for each athlete would still vary considerably, even within a team. More information around the environmental and personal demands of the competition might assist in understanding appraisal processes. Such intricacies might be best addressed through qualitative methods.

Self-Compassion and Coping

Examining the role of self-compassion in coping in a specific sport context, namely a competition situation, increases understanding of self-compassion in sport. Significant relations were not found between both self-compassion and problem-focused coping and task-focused coping or emotion-focused coping. Previous research provides mixed support for the associations between these coping variables and self-compassion in sport through illustrating the direct and indirect effect of self-compassion on appraisal, coping, goal progress, and emotion. We have already discussed the mechanisms or chain of interrelated variables (see Figure 1) through which self-compassion attenuates negative aspects of the stress process in sport, while facilitating the positive. This section presents additional considerations of self-compassion and appraisal, coping, and affect.

Table 4  Study 2: 95% Biased Corrected Bootstrapped Indirect Effects From the Partial Moderated Mediation Model (Model 3B)

<table>
<thead>
<tr>
<th>Effect and pathways</th>
<th>Estimate</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 self-compassion → T2 task-oriented coping</td>
<td>0.114*</td>
<td>(0.045, 0.215)</td>
</tr>
<tr>
<td>T2 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 self-compassion → T2 disengagement-oriented coping</td>
<td>-0.104*</td>
<td>(-0.215, -0.032)</td>
</tr>
<tr>
<td>T2 control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1 self-compassion → T2 goal progress</td>
<td>0.078*</td>
<td>(0.022, 0.200)</td>
</tr>
<tr>
<td>T2 control → T2 task-oriented coping</td>
<td>0.071*</td>
<td>(0.019, 0.185)</td>
</tr>
<tr>
<td>T2 disengagement-oriented coping</td>
<td>-0.084</td>
<td>(-0.247, 0.001)</td>
</tr>
<tr>
<td>T2 control</td>
<td>0.163*</td>
<td>(0.023, 0.362)</td>
</tr>
<tr>
<td>T1 self-compassion → T2 positive affect</td>
<td>0.009*</td>
<td>(0.001, 0.038)</td>
</tr>
<tr>
<td>T2 control → T2 task-oriented coping</td>
<td>0.008*</td>
<td>(0.001, 0.034)</td>
</tr>
<tr>
<td>T2 control → T2 disengagement-oriented coping</td>
<td>0.048*</td>
<td>(0.016, 0.110)</td>
</tr>
<tr>
<td>T2 task-oriented coping</td>
<td>0.018*</td>
<td>(0.001, 0.064)</td>
</tr>
<tr>
<td>T2 control</td>
<td>0.153*</td>
<td>(0.054, 0.294)</td>
</tr>
<tr>
<td>T1 self-compassion → T2 negative affect</td>
<td>-0.030*</td>
<td>(-0.084, -0.007)</td>
</tr>
<tr>
<td>T2 control → T2 disengagement-oriented coping</td>
<td>-0.102*</td>
<td>(-0.206, -0.033)</td>
</tr>
</tbody>
</table>

Note. All parameters are unstandardized. *p < .05.
functions (see Allen & Leary, 2010). However, it may be that self-compassion is more related to coping effectiveness than a particular coping function or strategy, as effectiveness may vary across different situations. Allen and Leary (2010) suggest that self-compassionate people may only engage in problem-focused coping if they perceive that the issue can be solved by taking action. The same logic can apply to emotion-focused coping, or any other coping effort. People high in self-compassion wish to give themselves care (Neff, 2011) and will likely take steps that will accomplish such objectives, which may include choosing the most relevant coping approach for the situation. Problem-focused coping and emotion-focused coping are useful in different circumstances (Nicholls, Holt, & Polman, 2005). Athletes’ differing competitive circumstances may require different approaches, eliminating clear consistent relationships between self-compassion and coping function.

Future research should examine whether self-compassion promotes effective coping choices and outcomes, as effective coping is more relevant to performance and well-being than the specific approach. While exactly what determines the effectiveness of a coping response remains unclear, researchers can consider the effectiveness of coping according to a predetermined outcome (Folkman, 1984), the fit between the objective situation, the appraisal of that situation, coping (Folkman, 1991), and the automatity (Gould, Eklund, & Jackson, 1993) and/or selection (Bolger & Zuckerman, 1995) of coping responses. Recent research with Skinner, Edge, Altman, and Sherwood’s (2003) coping taxonomy provides another lens through which future research might consider examining coping in sport (Didymus & Fletcher, 2014). Examination of intention, function, and effectiveness of coping strategies, as well as consideration of appraisal, is possible in this framework, and coping strategies can be examined in combination or isolation (Didymus & Fletcher, 2014). While more complex both conceptually and methodologically, such an approach is positioned to capture additional nuances in athlete stress processes.

Self-compassion was, however, negatively related to avoidance coping in Study 1, which is consistent with previous research in nonsport (Neff et al., 2005; Leary, Tate, Adams, Allen, & Hancock, 2007) and sport populations (Huysmans & Clement, 2017). For example, people high in self-compassion accept more responsibility for their actions than those low in self-compassion (Leary et al., 2007), suggesting an absence of avoidance coping. Self-compassion has also been shown to be negatively related to avoidance coping in students after they receive a poor midterm grade (Neff et al., 2005). Conceptually, these findings make sense, as the mindfulness component of self-compassion requires one to keep a balanced perspective that is accepting and understanding, (Neff, 2003b), rather than adopting an avoidant stance likely to lack effectiveness in competition.

A final consideration in positioning the connection between self-compassion and coping involves indirect processes. In both studies, pathways from self-compassion to control appraisals explained that athletes with higher self-compassion are using more active forms of coping whereas athletes with lower self-compassion are using more disengagement coping. The route appears indirect rather than direct, and future work will need to take into account the multiplicity of appraisal processes to clarify these findings. For instance, it could be that athletes with high self-compassion perceive competition as less stressful, thus eliminating the need to activate high levels of active coping. It could also be that people with low and high levels of self-compassion hold a different relational meaning with the stressor because of their differing cluster of appraisal processes (e.g., Breines & Chen, 2012). Despite feeling stressed, athletes with high self-compassion might also perceive the situation as manageable and motivationally relevant but not ego-involving, which, in combination rather than isolation, might promote task engagement and coping strategies.

### Self-Compassion and Affect

Given the adaptive qualities associated with self-compassion, the negative relationship with negative affect in Study 1 and Study 2 is not surprising and is in line with previous research (e.g., Adams & Leary, 2007; Neff et al., 2007). The lack of a significant relation with positive affect is contrary to previous research (Neff et al., 2007); however, our studies do support an indirect effect. Although self-compassion has shown a positive relation with positive affect in past research, Neff et al. (2007) maintain that self-compassion stems more from the ability to manage negative emotions. In addition, as athletes were reporting on their most recent competitive experience, it could be that those who are low in self-compassion are more likely to self-report negative events and have strong affective reactions to them because they are highly judgmental. Athletes who are higher in self-compassion may exhibit less extreme affect, be it positive or negative, related to the competition. This absence of extreme affect aligns with the mindfulness component of self-compassion. Regardless, it seems important to consider appraisal and coping when trying to understand the relation between self-compassion and affect.

### Strengths, Limitations, and Future Directions

While this study has a number of strengths including its prospective design, sport-specific context, and consideration of multiple aspects of the stress process, it is not without limitations. First, while coping function was assessed using sport-specific measures with demonstrated psychometric support, future research should consider expanding into specific strategies that are conceptually relevant, including positive reframing and acceptance, as they align with the cognitive restructuring suggested by Allen and Leary (2010) to be a mechanism through which self-compassion functions. Considering context-specific self-compassion might also serve to better and more consistently predict domain-specific processes and outcomes related to stress, coping, and emotion. In addition, there is a need for longitudinal, multiwave research to understand the influence of self-compassion over training and competition cycles. While our prospective design provided a preliminary overview of basic relationships, it is limited in capturing the dynamic nature of the coping process. Experimental designs that allow for examination of causation would also further knowledge. Finally, due to the unique aspects of different sports, and different sport situations, the measurement of goal progress can be challenging. However, in an attempt to standardize across sports and different competitive situations, goal progress in the present study measured the degree to which athletes perceived they were making progress toward their goals. Future research should explore more objective measures of goal progress and performance in relation to self-compassion.

### Applications and Implications

While we recognize that causal claims cannot be drawn from these data, there are implications for applied practice. When working with athletes, examination of the connection between their level of self-compassion and their appraisals, coping efforts, and affect may be a useful target for self-reflection that may assist with recognition of maladaptive or inaccurate appraisal patterns and ineffective
coping efforts, and identification of more adaptive approaches. Our two studies suggest that self-compassion has direct and indirect effects on various aspects of the stress process. The connection between self-compassion and appraisal processes has particular applied utility. Highlighting the association with adaptive appraisal processes may help facilitate adoption of the approach among athletes, as previous research has suggested that some athletes express hesitation to integrate self-compassion (e.g., Ferguson et al., 2014; Sutherland et al., 2014). Alongside these adaptive appraisals, self-compassion appears to exist alongside coping that facilitates successfully regulated emotion (i.e., more positive affect and less negative affect), as well as goal progress.

Coaches, parents, and applied sport psychology practitioners can support athletes in developing and mobilizing the resources necessary for adaptive and healthy responses to the demands experienced in sport. Self-compassion has been successfully induced through an athlete-centered and driven intervention consisting of a psychoeducation session and writing program (Mosewich et al., 2013). Athletes exhibited higher levels of self-compassion and lower levels of excessive self-criticism, concern over mistakes, and rumination in regard to a significant sport setback (compared with an attention-control group) after completion of the program. Outside of formal intervention attempts, athletes have also attributed to the role of personal processing and reflection in the development of self-compassion (Ingstrup, Mosewich, & Holt, 2017). Self-compassion can also be promoted by others. Parents can play a key role in providing help and support during adversity, teaching and encouraging reflections that reflect self-kindness and putting experiences into perspective (Ingstrup et al., 2017). Peers, siblings, coaches, and sport psychologists can also promote self-compassion through modeling and encouraging self-compassionate responses (Ingstrup et al., 2017).

Overall, this research suggests that self-compassion has important links with the stress process in women university athletes. This provides further support for the contention that self-compassion may be a useful resource in the sport domain. Examining the feasibility and effectiveness of self-compassion-promotion programs in sport would be useful in evaluating potential for application in managing experiences not only related to setback, failure, and evaluation but also with promoting and navigating success.

Acknowledgments

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