EXPLORING SELF-COMPASSION, POSITIVE AND NEGATIVE EMOTION
REGULATION, SPORT PERFORMANCE, AND DAILY RESILIENCE AMONG
COLLEGE ATHLETES

by

James D. Doorley
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Psychology

Committee:

_____   Director

_____

_____

_____   Department Chairperson

_____   Program Director

_____   Dean, College of Humanities
and Social Sciences

Date: _____   Summer Semester 2020
George Mason University
Fairfax, VA

Exploring Self-Compassion, Positive and Negative Emotion Regulation, Sport
Performance, and Daily Resilience among College Athletes

A Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at George Mason University

by

James D. Doorley
Master of Arts
George Mason University, 2016
Bachelor of Arts
University of Massachusetts Amherst, 2012

Director: Robyn Mehlenbeck, Clinical Professor
Department of Psychology

Spring Semester 2020
George Mason University
Fairfax, VA

DEDICATION

To my parents, who made endless sacrifices to ensure I received the best possible education and granted me freedom to explore my passions.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Goal-Specific Hope Scale ....GSHS
Positive and Negative Affect Schedule ....PANAS
Self-Compassion ....SC
Self-Compassion Scale ....SCS
Short Grit Scale ....Grit-S
Trait Sport Confidence Inventory.. TSCI
Ways of Savoring Checklist..WOSC

ABSTRACT

EXPLORING SELF-COMPASSION, POSITIVE AND NEGATIVE EMOTION
REGULATION, SPORT PERFORMANCE, AND DAILY RESILIENCE AMONG
COLLEGE ATHLETES

James D. Doorley, Ph.D.

George Mason University, 2020

Dissertation Director: Robyn Mehlenbeck, Ph.D., ABPP

It is the most resilient athletes – those who bounce back from adversity – who achieve the

most success and fulfillment while maintaining well-being throughout their college

careers. To better understand the psychological profiles of resilient athletes, researchers

often focus on emotion regulation strategies in response to negative events. While

fruitful, athletes' regulatory responses to positive events (e.g., savoring) may be equally

important during the highs, lows, and rigorous demands of a collegiate season.

Researchers are also becoming increasingly interested in self-compassion (SC) as an

emotion protective factor among athletes. SC may be crucial in helping athletes

overcome shortcomings and defeats in sports. However, it remains unclear whether SC

influences the regulation of positive and negative emotions and daily sport performance,

particularly on days following poor performances (as SC theory would suggest). Lastly,

while research is beginning to examine the role of SC in athletes, it is unclear whether

benefits are unique or shared by related traits, such as grit, hope, and self-confidence. In

Study 1, I compare the effects of frequently studied negative emotion regulation strategies (cognitive reappraisal and acceptance) to a positive emotion regulation strategy (savoring) on daily emotional resilience in response to negative events. In Study 2, I explore whether individual differences in SC influence chosen emotion regulation strategies, enhance their effectiveness, and facilitate resilient responses to poor sport performances the following day (in terms of performance and emotional rebound) while comparing the effects of SC with grit, hope, and self-confidence.

STUDY 1

Title and Abstract

Exploring daily resilience among college athletes: The effects of positive and negative

emotion regulation

Researchers often focus on negative events and neglect events when studying resilience.
As a result, we know less about the role of positive compared to negative emotion
regulation strategies in daily resilience. Positive regulatory strategies, such as savoring,
may be particularly beneficial for individuals in high-stress performance-oriented
environments, such as athletes, who are often trained to attend to negative stimuli (e.g.,
rectifying weaknesses) more so than positive (e.g., enjoying progress). Using experience
sampling methods, we tested the benefits of negative (cognitive reappraisal, acceptance,
social support seeking, problem solving) and positive (savoring) emotion regulation
strategies and their relative role in promoting daily resilience (i.e., adaptive emotional
responses to daily negative events) among college athletes ($N = 67$). Across 14
consecutive days (836 total observations) during athletes' competitive seasons, we found
that cognitive reappraisal and acceptance were the only two strategies that predicted
unique variance in daily emotions following negative events. Savoring moderated
(strengthened) the association between positive event intensity and positive emotions.
Comparing strategies, reappraisal buffered against the negative effects of negative event

intensity on daily gratitude, but the protective effects of savoring were more widespread - buffering associations between negative event intensity and anger, annoyance, and average negative emotions. Similar effects were observed for acceptance. While researchers and sport-psychologists frequently cite the benefits of mindfulness and acceptance, savoring may be a related yet underappreciated mindfulness-based strategy for enhancing athlete resilience in the face of daily stressors.

Introduction

College athletes face challenges beyond typical college life (Kimball & Freysinger, 2003), including rigorous training and competitive schedules with minimal days off, frequent travel, external pressures to perform, difficulties with coaches and teammates, athletic and academic role conflict, and insufficient time to nurture non-sport relationships (Broughton & Neyer, 2001; Loudon, Stevens, Yow, Humphrey, & Bowden, 2013; Settles, Sellers, & Damas, 2002; Watson & Kissinger, 2007). These stressors are nothing new, yet, mental health guidelines for college athletes were first put forth by the NCAA only 5 years ago (Brown et al., 2014). There is still much progress to be made in understanding how athletes regulate their emotions in response to stress and build resilience.

Theory and research show that healthy and high-performing athletes are resilient (e.g., Galli & Gonzalez, 2015; Galli & Vealey, 2008; Morgan, Fletcher, & Sarkar, 2013; Sarkar & Fletcher, 2014), but it is unclear what predicts resilience at the daily level among athletes. While the ability to effectively regulate both positive and negative emotions is a known predictor of resilience in the general psychology literature (e.g.,

Min, Yu, Lee, & Chae, 2013; Troy & Mauss, 2011; Tugade & Fredrickson, 2007), the role of emotion regulation strategies in athlete resilience has been underexplored. In this study, we examine which emotion regulation strategies confer resilience in response to daily negative events within and beyond the sport context. We then compare the effectiveness of these strategies to a positive emotion regulation strategy: savoring. Building from positive psychology research, savoring may not only upregulate positive emotions, but also enhance resilience in the face of distress among college athletes.

Athlete emotion regulation

Emotion regulation involves modifying the intensity or duration of an emotional response. Emotion regulation is similar to coping – or reducing the intensity/duration of one's stress response to a particular event (Gross, 2015). An artificial splitting of these constructs has stymied research progress and communication of findings in sport psychology research. Emotion regulation research among athletes has gained momentum in recent years, but the field has been slow to adopt more advanced methodologies from the general psychological literature. Existing studies rely heavily on retrospective measures (e.g., Gould, Finch, & Jackson, 1993; Holt & Hogg, 2002; Lane, Beedie, Devonport, & Stanley, 2011; Poczwardowski & Conroy, 2002), including ones that claim to assess emotion regulation "during competition" (e.g., Gaudreau & Blondin, 2004; 2004b; Martinent, Ledos, Ferrand, Campo, & Nicolas, 2015). Others rely on qualitative interviews with small samples of athletes (e.g., Holt, 2003; Holt, Berg, & Tamminen, 2007) that, while useful for generating ideas, cannot offer generalizable conclusions about how athletes regulate emotions.

Another limitation of existing research is a narrow focus on sport-specific situations. Clearly, sport-related emotion regulation is relevant for athletes, but a sole focus ignores other meaningful facets of athletes' daily lives. This may be especially true for college athletes, who experience significant stressors not only in their sport, but while balancing various competing life domains (e.g., academics, social life, family, career planning) (e.g., Kimball & Freysinger, 2003; Watson & Kissinger, 2007). Focusing exclusively on sport contexts influences the regulatory strategies athletes report, which skews conclusions about athlete emotion regulation. For example, frequently reported regulatory strategies among athletes include concentration on goals, time management, learning more about opponents, and using performance-related skills such as visualization (Gould, Eklund, & Jackson, 1993; Holt, 2003; Holt & Mandigo, 2004; Park, 2000). While useful, these data tell us more about in-game performance tactics than how athletes cope with meaningful stressors in daily life.

In the general psychological literature, thousands of studies have explored the use of regulatory strategies such as cognitive reappraisal (i.e., changing one's thinking about a situation), acceptance (i.e., mindfully acknowledging distressing emotions or situations without struggling to change them), problem-solving, social support seeking, and cognitive and behavioral avoidance (i.e., trying not to think or act in ways that exacerbate distress). These studies demonstrate the effectiveness of certain regulatory strategies (e.g., cognitive reappraisal and acceptance) compared to others (e.g., avoidance) across a range of contexts and populations in daily life (e.g., Brockman, Ciarrochi, Parker, & Kashdan, 2017; Kuba & Scheibe, 2017; Machell, Goodman, & Kashdan, 2015). Despite a

proliferation of sport psychology interventions focused on increasing reappraisal, strengthening team bonds (i.e., social support), and accepting rather than avoiding distress (Gross et al., 2018; Kaufman, Glass, & Pineau, 2018; Martin, Carron, & Burke, 2008; Röthlin, Birrer, Horvath, & Grosse Holtforth, 2016; Yukelson, 1997), we know little about the extent to which college athletes use these strategies in daily life.

Beyond strategy use, effectiveness is also important. Many studies simply ask athletes to rate how effective their chosen regulatory strategies were (e.g., via cross-sectional methods) without a clear operationalization of "effective" or validated measures of known regulatory strategies in the literature. For example, several daily studies of athlete coping/emotion regulation have used sport stressor checklists (e.g., Nicholls, et al., 2006; Nicholls & Polman, 2007; Reeves, Nicholls, & McKenna, 2011) or unvalidated, opened-ended questions asking athletes which sport stressors they experienced and how they responded (e.g., Nicholls et al., 2009). Among other obvious benefits, validated daily measures of emotion regulation tend to measure which strategies are used and to what extent. If an athlete endorses five regulatory strategies on a given day on a free-response item, it is unclear which strategies they relied on most or used most frequently. Emotion regulation measures with validated factors allow for greater continuity with existing research outside of sport. It is time for sport psychology to adopt longstanding approaches to the study of emotion regulation that social and clinical psychology have used for decades. This includes exploring regulatory strategies in response to positive as well as negative events.

Positive emotion regulation: The benefits of savoring positive events for college athletes

In the last 20 years, researchers have become increasingly interested in enhancing well-being among a variety of populations, including students (e.g., Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). In sport psychology, research on mindfulness-based interventions to enhance sport performance has also seen a sharp increase over the past two decades (Baltzell & Akhtar, 2014; Gardner & Moore, 2004; Kaufman, Glass, & Arnkoff, 2009). Positive emotion regulation (i.e., strategies to upregulate positive emotions related to positive events), however, has received little attention in sport psychology despite well-document links between positive emotions and social functioning, health, and resilience (e.g., Tugade & Fredrickson, 2004).

College athletes devote immense time to sport activities in addition to academic commitments. Starting months in advance during the preseason, athletes train tirelessly for competition with hopes of progressing through conference tournaments and eventually the NCAA tournament, but most athletes will not make it this far. After a short off-season, they resume rigorous training all over again to pursue the same goals. With grueling schedules comprised of more "journeys" (training and practice) than "arrivals" (winning games or tournaments, individual accolades, etc.), savoring smaller daily achievements and positive events may be an overlooked strategy for enhancing athlete resilience.

Savoring is defined as a set of cognitive-behavioral strategies to generate, enhance, or prolong positive affect in response to positive events (Bryant & Veroff,

2007). There are a number of ways to savor positive events, including allowing oneself to fully express positive affect, seeking out people to share the experience, feeling grateful, congratulating oneself, focusing attention on pleasurable physical and sensory stimuli, and mindfully noting important details to remember later (Bryant & Veroff, 2007). To this end, savoring is related to mindfulness, involving present moment awareness. What distinguishes savoring is the narrow goal of up-regulating positive emotions related to positive events (Kiken, Lundberg, & Fredrickson, 2017), which may not always be present-moment focused.

Research demonstrates that savoring positive events is associated with expected affective outcomes, including prolonged and enhanced positive emotions (Bryant & Veroff, 2007; Jose, Lim, & Bryant, 2012). Notably, savoring may also promote resilience. Data suggest that savoring is more strongly associated with well-being during stressful times when positive events are scarce (Hurley & Kwon, 2013). Savoring may be a viable intervention for increasing resilience and happiness over time (Smith & Hanni, 2019), and when paired with behavioral activation, shows promise for treating depressed mood (McMakin, Siegle, & Shirk, 2011). Taken together, it appears that savoring generates greater positive affect and, similar to negative emotion regulation strategies (e.g., cognitive reappraisal, acceptance, problem solving), mitigates psychological distress. It may be that regulatory strategies focused on negative as well as positive events are both associated with daily resilience among college athletes. To our knowledge only two experience-sampling studies of savoring have been conducted (Jose et al., 2012; Sytine, Britt, Sawhney, Wilson, & Keith, 2019) and none involved athletes.

7

These methods are ideally suited for studying the consequences of savoring daily positive events on daily emotions and resilience following negative events.

The present study

Despite an abundance of research in the general psychology literature, there is still much to learn about how college athletes regulate their emotions in response to daily stressors both within and outside sport. Despite growing interest in athlete mindfulness and well-being, the benefits of savoring, a mindfulness-based positive emotion regulation strategy, have been overlooked among college athletes. Growing evidence suggests that savoring enhances positive emotions and is associated with healthy outcomes during difficult times. It is important to explore the potential for both positive and negative emotion regulation strategies to enhance emotional resilience to daily stressors among college athletes. To address these gaps, we tested the following hypotheses:

1. Greater use of cognitive reappraisal, acceptance, problem-solving, and social support in response to daily negative events will be associated with higher positive and lower negative emotions regardless of negative event intensity. In contrast, greater use of cognitive and behavioral avoidance in response to daily negative events will be associated with lower positive and higher negative emotions, regardless of negative event intensity.

2. Savoring daily positive events will moderate associations between positive event intensity and daily emotions such that greater savoring will strengthen the positive association between positive event intensity and positive emotions and strengthen the negative association between positive event intensity and negative emotions.

8

3. While savoring is theoretically tied to positive events, savoring will also predict emotional resilience following daily negative events. Specifically, we expect savoring, along with the most effective emotion regulation strategies from Hypothesis 1, to moderate (buffer) associations between daily negative events and lower positive/higher negative emotions – suggesting that both positive and negative emotion regulation strategies may confer similar benefits for daily resilience.

Method

Participants and procedures

Participants were 67 collegiate athletes from George Mason University (GMU; $n = 53$) and Catholic University of America (CUA; $n = 14$). Athletes represented various sports, including women's soccer, women's volleyball, men's and women's swimming and diving, men's and women's basketball, men's and women's cross country and track and field, women's lacrosse, and softball. Recruitment procedures differed slightly between universities. At GMU, team coaches were contacted via email and given general study information. If coaches expressed interest, a member of the research staff scheduled a meeting with their teams to explain our study, train athletes on the daily diary software (PACO Personal Analytics Companion; Evans, 2017), and obtain informed consent. At CUA, athletes were recruited directly via flyers and mass emails. Athletes were eligible to participate if they spoke and read English and owned a smartphone with a reliable internet connection. The average age of the final sample was 19.85 ($SD = 1.25$).

Participants were 89% women; 91.1% White, 3.5% Hispanic/Latino, 2.4% Asian/Pacific Islander, and 2.9% Other.

Athletes who provided written consent to participate were re-contacted via email and invited to completed baseline measure of self-compassion and sport-related self-confidence followed by a daily diary assessment via PACO (Personal Analytics Companion; Evans, 2017). Athletes from different teams completed the daily diary portion of the study at different times during their respective seasons, which were specified by coaches (at GMU) or the athletes themselves (at CUA) based on the number and importance of practices and competitions. Participants were pinged daily at 7:00 PM for 14 consecutive days to complete short, 5-10 minute surveys about their day, which included questions about their most positive and negative events that day, positive and negative emotions, and regulatory responses to their most positive and negative events. Participants were instructed to complete surveys after finishing all sport-related activities and before 3:00 AM the following day. All procedures were approved by both universities' IRBs.

Measures

Positive and negative emotions. Daily positive and negative emotions were measured using select emotion adjectives from the Positive and Negative Affect Schedule – Extended Form (PANAS-X; Watson & Clark, 1999): *Cheerful, Joyful, Content, Sad,* and *Angry.* We added two additional items for this study: *Grateful* and *Annoyed.* We used only seven emotion items for greater simplicity and lower participant burden while capturing emotions across the valance and arousal dimensions (e.g., Joyful = high

valence/high arousal, Content = high valence/low arousal, Angry = low Valance/high

arousal, Sad = low valence/low arousal; see Gerber et al., 2008). Since *Joyful* and

Cheerful were highly correlated at the between- ($r = .95$) and within-person level ($r =$

.70), we combined to form a composite variable, *Happy.* The resulting three positive

emotion adjectives were averaged to create the positive emotions scale ($R_C = .84$), and the

three negative emotion adjectives were averaged to create the negative emotions scale

($R_C = .77$). To explore the impact of regulatory strategies on specific positive and

negative emotions, we entered individual emotion items/adjectives as outcomes in

analyses for Hypotheses 2 and 3.

   Positive and negative events. Participants reported on their most positive event

that day with the following item: *"Please describe today's most positive event. Be as*

specific as you can." They rated the intensity of their most positive events (*"How*

positive was this event?") on a 5-point Likert scale from "Not at all" to "Extremely."

Participants also reported on their most negative event that day (*"Please describe today's*

most negative event. Be as specific as you can."). Consistent with the primary and

secondary appraisal model of coping (Lazarus, 2006; Lazarus & Folkman, 1984),

participants then provided an appraisal of the intensity of their most negative event each

day ("How negative was this event?") using the same 5-point Likert scale.

   Ways of Savoring Checklist (WOSC; Bryant & Veroff, 2007). Participants rated

the extent they savored their most positive daily events using four WOSC items with the

highest factor loadings from Jose and colleagues (2012). Items included, *"I talked to*

another person about how good I felt," "I looked for other people to share it with," "I

thought about what a lucky person I am that so many good things have happened to me,"

and "I thought about sharing the memory of this later with other people." Savoring items

were averaged together to create a total savoring score ($R_C = .75$).

 Emotion regulation strategies. Participants rated the extent that they used various

emotion regulation strategies in response to daily negative events using items from

Aldridge-Gerry and colleagues' daily coping scale. Items from this scale were drawn

from other validated coping measures, including the Brief COPE (Carver, 1997), the

How I Coped Under Pressure Scale (Sandler, Tein, Mehta, Wolchik & Ayers, 2000), and

the Responses to Stress Questionnaire (Connor-Smith et al., 2000). For the present study,

we focused on frequently researched regulatory strategies that we believed would be

associated with SC, including, Social Support Seeking ($R_C = .75$) – comprised of

Emotion-Focused (two items; e.g., *"I talked to my family about how I was feeling"*) and

Problem-Focused Support ($R_C = .82$) (two items; e.g., *"I figured out what I could do by*

talking to my friends"), Cognitive Reappraisal ($R_C = .78$) (2 items; originally called

"positive cognitive restructuring," e.g., *"I reminded myself that things could be worse"*),

Acceptance ($R_C = .32$) (two items; e.g., *"I learned to live with it"*), Problem-Solving (R_C

$= .82$) – comprised of Direct Problem-Solving (2 items; e.g., *"I did something to solve*

the problem") and Cognitive Decision-Making (2 items; e.g., *"I thought about what I*

need to know to solve the problem"), Behavioral Avoidance ($R_C = .51$) (two items;

originally called "avoidant actions," e.g., *"I tried to stay away from the problem"*), and

Cognitive Avoidance ($R_C = .43$) (two items; e.g., I tried to put it out of my mind). Items

were rated on a 4-point Likert scale from *"Not at all"* to *"A lot."* Research suggests that

this measure, and the scales from which it is adapted, predict daily alcohol consumption (Aldridge-Gerry et al., 2011), trait levels of fear (Ollendick, Langley, Jones, & Kephart, 2001), heart-rate reactivity to stress and internalizing/externalizing symptoms (Connor-Smith et al., 2000), and changes in the symptom severity of psychological disorders (e.g., Meyer 2001). Subscale reliabilities will be further discussed in the results section.

Data analytic strategy

To evaluate the interdependence of observations, we examined the intraclass correlations (ICCs) for each outcome (daily happiness, gratitude, contentment, sadness, anger, and annoyance). Results showed a substantial proportion of variance was attributable to differences between people (ICC range = .23-.48; Table 1). As such, hypotheses were tested using two-level models with daily observations (level 1) nested within people (level 2), though no level 2 variables were used as predictors or outcomes in analyses. All predictors were within-person mean-centered so that scores represented deviations from each athlete's mean during the 2-week daily assessment period.

The reliability of daily multi-item scales was calculated in SPSS based on G Theory (e.g., Brennan, 1992; Shrout & Lane, 2012) using code specified by Bolger & Laurenceau (2013). This approach is optimal for repeated daily measures in multi-level models and allowed us to account for multiple sources of variance, including differences between people, items, and time (i.e., days). Specifically, our index of reliability (*"R_C"*) assessed the extent to which within-person-changes were reliable across days. R_C is higher when variance is predominantly attributable to differences across people and time rather than differences across items and error.

Primary analyses were performed using R 3.6.1 (R Core Team, 2019). To test the effects of daily emotion regulation strategies (in response to negative events) on daily emotions (Hypothesis 1), we entered each strategy – cognitive reappraisal, acceptance, problem-solving, social support seeking, cognitive avoidance, and behavioral avoidance – as predictors of daily positive and negative emotions in separate models, controlling for negative event intensity in each model. Next, we included significant predictors from these models together to test which strategies predicted unique variance in daily positive and negative emotions, again, controlling for negative event intensity. Since the intensity of daily negative events was correlated with daily positive ($r = -.31$) and negative emotions ($r = .45$) at the within-person level (Table 1), we entered negative event intensity as a covariate in all models for Hypothesis 1.

To test the effects of positive event intensity, savoring positive events, and their interaction on daily emotions (Hypothesis 2), we entered these variables as predictors of daily positive and negative emotions. Since the intensity of daily positive events was correlated with positive ($r = .33$) and negative emotions ($r = -.16$) at the within-person level, we entered positive event intensity as a covariate in all models for Hypothesis 2. To test the emotionally protective effects of emotion regulation strategies related to both negative and positive events (Hypothesis 3), we selected the regulatory strategies that predicted (higher) positive and/or (lower) negative daily emotions from Hypothesis 1. In one set of models, we entered negative event intensity as a predictor of daily emotions moderated by the most effective regulatory strategies from Hypothesis 1. In another set of models, we entered negative event intensity as a predictor of daily emotions moderated

by the extent participants savored their most positive events (with positive event intensity as a covariate). For Hypotheses 2 and 3, we entered individual positive (happy, grateful, content) and negative emotions (sad, angry, annoyed) along with average levels of each as outcomes.

Results

Descriptive statistics

Between- and within-person correlations and descriptive statistics for primary study variables are presented in Table 1. Participants ($N = 67$) completed an average of 12.89 daily diaries ($SD = 2.19$) for a total of 836 daily observations. Several participants completed more than the 14 required daily diaries (n = 12, maximum daily dairies completed = 16). Daily diary compliance was not significantly correlated with daily positive and negative emotions at the within-person level and was thus not accounted for during analyses.

The reliability of primary daily measures was generally high except for the two-item acceptance scale ($R_C = .32$). When examining the items comprising this scale, it is understandable that participants may have responded differently to, *"I learned to live with it"* versus, *"I just accepted the fact that this is the way it is."* While this scale was designed for daily use (e.g., Aldrige-Gerry, 2011), "learning to live with it" may be less applicable to daily stressors (which are often transient and do not require long-term recalibration of expectations) and thus, may have decreased internal consistency. Still, our acceptance measure arguably captures two different features of acceptance, broadening content validity compared to a single-item measure. It is no surprise that

15

reliability was lower on average for 2-item daily scales (except for cognitive reappraisal; $R_C = .78$) compared to measures with three or four items (e.g., positive and negative emotions, savoring). As a caveat, appropriate methods for calculating the reliability of daily measures in multilevel models are poorly understood, and when done correctly, reliability may lower than when using conventional methods (e.g., cronbach's alpha) as if observations were independent (i.e., not nested) (Nezlek, 2011; 2012).

Hypothesis Testing

Hypothesis 1: *Daily regulatory strategies predicting daily emotions*

Multilevel regression results (Table 2) revealed that, controlling for negative event intensity, greater use of daily problem solving predicted higher daily positive emotions. Greater use of daily cognitive reappraisal and acceptance were associated with higher positive and lower negative emotions, also controlling for negative event intensity. Contrary to hypotheses, greater use of daily social support was not associated with daily positive emotions and was associated with greater negative emotions. As hypothesized, greater use of cognitive and behavioral avoidance were associated with higher daily negative emotions but were not associated with positive emotions. When combining regulatory strategies that predicted higher positive and lower negative daily emotions in the same models (Table 3), cognitive reappraisal was the only regulatory strategy that predicted higher daily positive emotions while acceptance was the only regulatory strategy that predicted lower daily negative emotions (controlling for negative event intensity in both models).

Hypothesis 2: *Positive event intensity predicting daily emotions, moderated by savoring*

Positive event intensity predicted higher positive and lower negative emotions. Daily savoring predicted higher positive emotions and lower sadness, annoyance, and average negative emotions controlling for positive event intensity. There were also significant interaction effects between daily positive event intensity and savoring predicting daily happiness, gratitude, contentment, such that greater positive event intensity was more strongly associated with positive emotions when athletes savored these events more (Table 4, Figure 1).

Hypothesis 3: *Negative event intensity predicting daily emotions, moderated by cognitive reappraisal, acceptance, and savoring*

In models containing cognitive reappraisal, there were main effects for negative event intensity predicting lower positive emotions and cognitive reappraisal predicting higher positive emotions. Negative event intensity and cognitive reappraisal interacted to predict gratitude such that higher levels of daily cognitive reappraisal buffered the negative association between negative event intensity and gratitude. The negative event intensity x cognitive reappraisal interaction did not predict any other positive or negative emotions (Table 5, 7, Figure 2).

In models containing acceptance, there were main effects for negative event intensity and acceptance predicting lower negative emotions. Negative event intensity and acceptance interacted to predict lower sadness, anger, and average negative emotions (but not annoyance) such that higher levels of daily acceptance buffered positive associations between negative event intensity and sadness, anger, and average negative emotions (Table 6, 8, Figure 3).

In models containing savoring, there were main effects for positive event intensity predicting higher negative and lower positive emotions, negative event intensity predicting lower positive and higher negative emotions, and savoring predicting higher positive emotions but not lower negative emotions. Negative event intensity and savoring interacted to predict daily anger, annoyance, and average negative emotions (but not sadness) such that higher levels of savoring buffered positive associations between negative event intensity and anger, annoyance, and average negative emotions. Negative event intensity and savoring did not interact to predict positive emotions (Table 6, 8, Figure 4).

<u>Discussion</u>

This research program adds to a body of work on the emotional life of college athletes and is the first, to our knowledge, to capture the effects of both positive and negative emotion regulation strategies on emotional resilience at the within-person level. Using a two-week experience sampling approach, we found that, regardless of the intensity of negative events, greater daily use of cognitive reappraisal and acceptance in response to these events predicted higher positive and lower negative emotions while problem solving predicting only higher positive emotions. Cognitive avoidance, behavioral avoidance, and interestingly, social support seeking each predicted higher daily negative emotions and did not predict positive emotions (above and beyond the variance accounted for the intensity of negative events).

When combining effective emotion regulation strategies into the same models, only cognitive reappraisal and acceptance predicted unique variance in (greater) positive

and (lower) negative daily emotions, respectively. Controlling for positive event intensity, savoring predicted greater positive emotions and lower sadness and annoyance but not anger. Savoring also strengthened the association between positive event intensity and positive emotions. Finally, when comparing the effects of cognitive reappraisal, acceptance, and savoring on daily emotional resilience in response to negative events, accepting negative events and savoring positive events provided a greater buffer against negative emotional outcomes compared to cognitive reappraisal, which only buffered against the negative association between daily negative event intensity and gratitude.

The fact that cognitive reappraisal and acceptance emerged as significant, unique predictors of positive and negative emotions is consistent with a number of experience sampling and laboratory studies with non-athlete populations (Dunn, Billotti, Murphy, & Dalgleish, 2009; Eifert & Heffner, 2003; Jamieson, Mendes, & Nock, 2013; Nezlek & Kuppens, 2008; Troy, Wilhelm, Shallcross, & Mauss, 2010) as well as cognitive-behavioral and mindfulness-based clinical interventions. Despite ample research in the general psychological literature, these regulatory strategies are underexplored among college athletes. While understanding emotion regulation and resilience during game situations is clearly relevant to athletes and their performance (e.g., Hanin, 2007; Jones, 2012), our findings demonstrate optimal ways for regulating emotions related to both positive and negative events in daily life, which were both sport- and non-sport related. As awareness of and responsivity to athlete mental health concerns has finally begun to increase, it is important to understand emotion regulation beyond the sport context. Of

course, stressful events from outside sport can impair sport performance without effective emotion regulation.

The fact that social support-seeking predicted greater daily negative emotions may seem initially peculiar. Social support is often considered an adaptive form of emotion regulation, which promotes emotional and physical health (e.g., Demaray & Malecki, 2002; Frasure-Smith et al., 2000; Turner, 1981). However, some research suggests that social support-seeking in the form of co-rumination (i.e., discussing and revisiting problems, speculating about problems, and focusing on negative feelings), is common among close friend groups (e.g., athletic teams) and associated with elevated depression and anxiety (Rose, 2002). It may be that social support-seeking took the form of co-rumination in our sample of young, predominantly female athletes and was thus associated with poor emotional outcomes. However, it is important to differentiate social support *seeking* from the *perception* that one is obtaining the support they desire.

Our measurement approach captured the act of seeking emotional and/or practical support from friends or family, not the perception of whether support was received or was adequate. It may be that seeking social support was associated with increased negative emotions because athletes sought but never obtained adequate support. Research and theory suggest that seeking but not receiving social support is associated with a host of negative outcomes whether social support was sought in person (e.g., Cohen & Willis, 1985) or via social media (Frison & Eggermont, 2015). In fact, thwarted attempts at obtaining adequate support, along with perceiving that one is a burden on others (which may stem from these thwarted attempts), are well-established predictors of suicidal

ideation among at-risk populations, including LGBT college students (e.g., Hill & Pettit, 2012; Hill, Rooney, Mooney, & Kaplow, 2017). Research should further explore how college athletes seek social support, particularly from their teammates and coaches, and which strategies for seeking and giving social support promote resilience.

Our study is the first to our knowledge to explore savoring in the daily lives of athletes. When coaches, sport psychology consultants, and researchers focus solely on regulating negative emotions in response to negative events, another dimension of daily emotion and experience is ignored. Promising findings continue to emerge in the field of positive psychology, showing that enhancing character strengths, gratitude, savoring, and compassion not only enhance positive emotions, but also resilience to distress (Chaves, Lopez-Gomez, Hervas, & Vasquez, 2017; McMakin et al., 2011; Meyer, Johnson, Parks, Iwanski, & Penn, 2012; Sin & Lyubomirsky, 2009; Smith & Hanni, 2019). Our results suggest that savoring, while unrelated to negative events, may be similarly effective to acceptance in conferring daily resilience.

Mindfulness is widely considered an important trait for athlete performance and well-being (e.g., Aherne, Moran, & Lonsdale, 2011; Haase et al., 2015; Kaufman et al., 2009), but despite convincing evidence, savoring is not typically considered under the umbrella of mindfulness in athlete contexts. For example, a recent study suggests that team-based interventions with athletes that include gratitude and savoring components are effective in reducing sport burnout and enhancing sport satisfaction and well-being (Gabana, Steinfeldt, Wong, Chung, & Svetina, 2019). Research should explore whether more mindful athletes engage in more savoring, as they are adept at shifting their

21

attention and encoding positive stimuli more deeply. Athletes who are less mindful may be less accepting of distress, become more entangled with it, and make greater attempts to change it (e.g., via cognitive reappraisal or other strategies).

While the benefits of daily savoring, reappraisal, and acceptance have been outlined separately in previous studies, this is the first study to our knowledge to compare the effects of these regulatory strategies on daily resilience. Findings suggest that savoring positive events is a comparable regulatory strategy to accepting negative events and more effective than cognitive reappraisal in enhancing resilience following daily negative events. Cognitive reappraisal is often touted as an optimal regulatory strategy (e.g., Gross & John, 2003; Haga, Kraft, & Corby, 2009), but many studies fail to consider the contexts and individual differences that modulate its effectiveness. Recent research suggests that many individuals have difficulty using reappraisal effectively and that reappraisal can be ineffective in various contexts, such as when taking deliberate action would be more effective or when negative emotions are useful for achieving goals (e.g., Ford & Troy, 2019; Troy, Shallcross, & Mauss, 2013).

Our findings add to this literature and other work on the benefits of acceptance and cognitive reappraisal (e.g., Vilardaga, Hayes, Atkins, Bresee, & Kambiz, 2013). Future research should not only explore reappraisal and acceptance among athletes individually, but also their co-occurrence. Emerging research suggests that some individuals may use multiple emotion regulation strategies at the same time, such as reappraisal and emotional suppression, with greater benefits than using just one (Sahdra

et al., in press). It would be valuable to know whether a certain combination of regulatory strategies used together enhance resilience for some athletes but not others.

Limitations and future directions

Our study makes meaningful contributions to literature on athlete emotion regulation and resilience, with several caveats. First, our analyses were correlational. While separate studies suggest reappraisal, acceptance, and savoring to play a causal role in reducing emotional distress, future experimental studies should compare the reappraisal, acceptance, and savoring interventions on emotional outcomes. Second, our findings are contingent upon our measurement approach. We used the four savoring items with the highest factor loadings from a widely used scale (Bryant & Veroff, 2007), and these items predominantly captured the social aspects of savoring (e.g., *"I talked to another person about how good I felt,"*) along with counting blessings (*"I thought about what a lucky person I am that so many good things have happened to me"*). Future studies should assess a wider range of savoring strategies at the daily level.

The generalizability of our findings is also limited by the scope of our daily cognitive reappraisal measure. We used two validated items from Aldridge-Gerry et al., 2011, which captured "positive" cognitive reappraisal, specifically (*"I reminded myself that things could be worse," "I tried to think about or notice only the good things in life"*) rather than general cognitive reappraisal (e.g., changing one's thinking about a situation to be more rational). The nature of our reappraisal measure may explain high between-person correlations with daily savoring ($r = .71$) since both measures capture a tendency to interpret events more positively. However, within-person correlations

23

capturing the covariation of savoring and reappraisal each day across people were low

(.11). Still, while the cognitive behavioral therapy tradition emphasizes rational thinking,

athletes and other populations may practice reappraisal differently, perhaps valuing

positive over rational thinking. Using a succinct measure of daily emotion regulation was

crucial for minimizing participant burnout, as we wished to measure a wide range of

strategies each day. Future studies focused on reappraisal or a smaller range of strategies

would benefit from adopting measures with more items and stronger content validity.

  Third, with 67 athletes, our ability to conduct between-person analyses yielding

stable results was limited. To harness all 836 daily observations, our hypotheses focused

exclusively on within-person analyses. Despite barriers to recruiting college athletes for

intensive longitudinal studies, researchers should strive to obtain larger samples to

examine individual differences in within-person predictors of emotional resilience,

including conscientiousness, negative emotionality, mindfulness, and self-compassion. It

may be that individuals with higher trait levels of self-compassion are more likely to

savor positive experiences due to beliefs that they are worthy. Given links between self-

compassion and mindfulness, individuals with greater self-compassion may also derive

greater benefits from savoring due to a tendency to live in the present.

  Fourth, our predominantly white and female sample may have influenced results.

Data suggest that women tend to use a wider range of adaptive and maladaptive

coping/emotion regulation strategies compared to men (Nolen-Hoeksema & Aldao, 2011;

Thoits, 1991). However, some data suggest that sex differences may be attributable to

higher levels of self-reported stressor intensity (Tamres et al., 2002), which was

controlled for in the present study. Beyond sex, experience sampling data suggest that individuals from racial, ethnic, and sexual minority groups use avoidant coping strategies more frequently on days when stigma-related stressors are reported (Hatzenbeuhler, Nolen-Hoeksema, & Dovidio, 2009). Replications with more diverse samples may yield a wider range of reported positive and negative daily events and perhaps different coping strategy use and effectiveness.

Conclusions

Despite these limitations, our study contributes valuable information to the athlete emotion regulation and resilience literature. Our findings suggest that savoring positive events may be equally beneficial to accepting negative ones, and superior to cognitive reappraisal, in buffering against the negative emotion consequences of daily negative events. Athletic coaches at the collegiate level and beyond often reference the importance of savoring wins (then immediately getting back to work). There is less emphasis on savoring productive practices, smaller individual improvements, downtime, and positive experiences with teammates. Our results are a reminder of how savoring may mitigate daily emotional distress during the competitive season.

Our findings also have implications for well-being and resilience focused interventions. While traditional clinical interventions, such as cognitive behavioral therapy, tend to focus on alleviating negative thoughts and emotions (e.g., with cognitive reappraisal), there has been a surge of interventions (e.g., "Positive Psychotherapy;" Seligman, Rashid, & Parks, 2006) which aim to bolster psychological strengths and well-being. Positive psychotherapeutic interventions are primarily designed to upregulate

positive psychological states, but they may reduce negative states and alleviate symptoms of serious mental health disorders, such as major depression and schizophrenia (e.g., Chaves et al., 2017; Meyer et al., 2012; Sin & Lyubomirsky, 2009). Savoring-focused interventions also show promise for enhancing resilience (Ho, Yeung, & Kwok, 2014; Hurley & Kwon, 2012; Meyer et al., 2012; Smith & Hanni, 2019) while related gratitude-based interventions have shown promise for a range of populations (e.g., Cheng, Tsui & Lam, 2015; Killen & Macaskill, 2015; Otto, Szczesny, Soriano, Laurenceau, & Siegel, 2016) including athletes (Gabana et al., 2019). We hope this research program increases attention toward savoring as an effective emotion regulation strategy for college athletes and other individuals in stressful, performance-oriented environments.

Tables and Figures

Table 1.

Between- and within-person correlations and descriptive statistics.

	1	2	3	4	5	6	7	8	9	10	11
Daily Measures											
1. Negative Event Intensity	--	.15*	.02	-.09*	.33*	.39*	.13*	-.10*	-.14*	-.31*	.45*
2. Problem-Solving	.30*	--	.20*	.02	.14*	.12*	.07*	.02	.06	.05	.03
3. Cognitive Reappraisal	.06	.57*	--	.28*	.09*	.15*	.14*	.12*	.11*	.19*	-.06
4. Acceptance	.11	.46*	.36*	--	.01	.07	.04	.08*	.08*	.12*	-.12*
5. Social Support	.44*	.50*	.46*	.39*	--	.25*	.17*	-.03	.07	-.14*	.33*
6. Cognitive Avoidance	.51*	.53*	.51*	.58*	.58*	--	.39*	.07*	.00	-.17*	.29*
7. Behavioral Avoidance	.29*	.54*	.59*	.37*	.67*	.69*	--	.01	.03	-.07*	.19*
8. Positive Event Intensity	.35*	.41*	.33*	.24	.22	.23	.23	--	.44*	.30*	-.17*
9. Savoring Positive Event	.09	.57*	.71*	.34*	.55*	.45*	.55	.55*	--	.33*	-.16*
10. Positive Emotions	-.18	.37*	.53*	.13	.16	.04	.25	.55*	.65*	--	-.49*
11. Negative Emotions	.57*	.06	-.08	-.04	.33*	.43*	.19	-.11	-.04	-.35*	--
Descriptives											
Scale	1 – 5	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 5	1 – 5	1 – 5	1 – 5
M	3.07	2.31	2.06	2.68	1.56	2.35	1.66	4.03	2.17	3.00	1.82
SD	1.16	.87	.90	1.00	.65	.87	.76	.93	.85	1.02	.98
ICC	.30	.30	.47	.27	.23	.33	.38	.27	.41	.48	.37

*Note*s. *$p < .05$. Coefficients below the diagonal represent between-person correlations. Coefficients above the diagonal represent within-person correlations. *Scale* = the scale on which each variable is scored. *ICC* = Intraclass correlation.

Table 2.

Multilevel regression results with regulatory strategies predicting same day emotions, controlling for the intensity of negativity events.

Outcomes:	Positive Emotions		Negative Emotions	
Predictors:	*b*	*t*	*b*	*t*
Problem-Solving	**.09***	2.72	-.04	-1.14
Cognitive Reappraisal	**.22***	5.85	**-.08***	-2.08
Acceptance	**.08***	2.84	**-.08***	-2.65
Social Support	-.06	-1.25	.27*	6.04
Behavioral Avoidance	-.04	-.96	.17*	4.14
Cognitive Avoidance	-.06	-1.25	.27*	6.04

*Note*s. **p* < .05. Regulatory strategies predicting better emotional outcomes (more positive or less negative emotions) are bolded.

Table 3.

Multilevel regressions testing unique variance explained in daily positive and negative emotions by significant predictors from Table 2, controlling for negative event intensity.

Outcomes:	Positive Emotions		Negative Emotions	
Predictors:	*b*	*t*	*b*	*t*
Negative Event Intensity	-.24*	-9.42	.35*	13.75
Problem-Solving	.06	1.70	N/A	N/A
Cognitive Reappraisal	**.19***	4.83	-.05	-1.39
Acceptance	.04	1.34	**-.06***	-2.15

*Note*s. *p* < .05. Cognitive reappraisal and acceptance were entered into the same models predicting positive and negative emotions. N/A = Problem-Solving did not predict negative emotions in Table 2, so it was not included.

Table 4.

Multilevel regression models with positive event intensity predicting daily emotions, moderated by savoring of positive events.

Outcomes:	Happy		Grateful		Content		Avg. Pos. Emo.		Sad		Angry		Annoyed		Avg. Neg. Emo.	
Predictors:	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*
Positive Event Intensity	.18*	4.43	.19*	4.31	.23*	5.02	.20*	5.60	-.13*	-2.77	-.10*	-2.24	-.14*	-2.74	-.12*	-3.12
Savoring Positive Event	.33*	6.82	.25*	4.82	.18*	3.25	.25*	5.95	-.14*	-2.50	-.10	-1.72	-.13*	-2.06	-.12*	-2.53
PE Intensity*Savoring	**.17***	2.86	**.16***	2.40	**.15***	2.21	**.16***	3.00	.05	.71	.00	.00	.005	.06	.02	.33

*Note*s. *p* < .05. Significant moderation effects are bolded. Avg. Pos Emo. = Mean of Happy, Grateful, and Content. Avg. Neg. Emo. = Mean of Sad, Angry, and Annoyed.

Table 5.

Multilevel regression models comparing cognitive reappraisal, acceptance, and savoring positive events as moderators of the association between negative event intensity and daily emotions.

Outcomes:	Happy		Grateful		Content		Avg. Pos. Emo.	
Predictors:	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*
Neg. Event Intensity	-.21*	-7.29	-.15*	-4.83	-.34*	-10.93	-.24*	-9.33
Cognitive Reappraisal	.18*	4.18	.26*	5.55*	.22*	4.84	.22*	5.91
N.E. Intensity*Cognitive Reappraisal*	.07	1.44	**.10***	1.99	.03	.65	.06	1.64
Predictors	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*
Pos. Event Intensity	.14*	3.64	.15*	3.62	.19*	4.48	.16*	4.81
Neg. Event Intensity	-.17*	-6.13	-.11*	-3.62	-.32*	-10.04	-.21*	-8.11
Savoring	.32*	7.02	.27*	5.22	.15*	2.88	.25*	6.10
N.E. Intensity*Savoring*	-.02	-.39	.06	1.41	-.04	-.85	.003	.10

*Note*s. *$p < .05$. Significant moderation effects are bolded. Positive Event Intensity was added as an additional covariate in models containing savoring. Avg. Pos. Emo. = Mean of Happy Grateful, and Content. Avg. Neg. Emo. = Mean of sad, angry, and annoyed. "--" = Acceptance/Cognitive reappraisal did not predict these emotions above and beyond negative event intensity in previous analyses, so their moderation effects were not tested.

Table 6.

Multilevel regression models comparing cognitive reappraisal, acceptance, and savoring positive events as moderators of the association between negative event intensity and daily emotions.

Outcomes:	Sad		Angry		Annoyed		Avg. Neg. Emo.	
Predictors	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*
Neg. Event Intensity	.31*	10.10	.36*	11.58	.37*	10.82	.35*	13.53
Acceptance	-.11*	-3.11	-.08*	-2.28	-.05	-1.33	-.08*	-2.76
N.E. Intensity*Acceptance*	**-.10***	-2.63	**-.10***	-2.88	-.05	-1.29	**-.08***	-2.73
Predictors	*b*	*t*	*b*	*t*	*b*	*t*	*b*	*t*
Pos. Event Intensity	-.12*	-2.76	-.08	-1.91	-.11*	-2.50	-.10*	-3.00
Neg. Event Intensity	.31*	9.87	.35*	11.41	.36*	10.46	.34*	13.25
Savoring	-.08	-1.60	-.04	-.89	-.07	-1.31	-.07	-1.59
N.E. Intensity*Savoring*	-.06	-1.30	**-.10***	-2.26	**-.11***	-2.19	**-.09***	-2.41

*Note*s. *p* < .05. Significant moderation effects are bolded. Positive Event Intensity was added as an additional covariate in models containing savoring. Avg. Pos. Emo. = Mean of Happy Grateful, and Content. Avg. Neg. Emo. = Mean of sad, angry, and annoyed. "--" = Acceptance/Cognitive reappraisal did not predict these emotions above and beyond negative event intensity in previous analyses, so their moderation effects were not tested.

Table 7.

Simple slopes for the interaction between daily negative event intensity and cognitive reappraisal predicting daily gratitude.

	Outcome: Grateful	
Predictor:		
Levels of Moderator	*β*	*t*
NE Intensity		
Levels of Cognitive Reappraisal		
-1 *SD*	-.24*	-4.56
M	-.15*	-4.83
+1 *SD*	-.07	-1.17

Note: *p<.05.

Table 8.

Simple slopes for daily negative event intensity predicting daily negative emotions moderated by savoring positive events and accepting negative events.

Outcome:	Sad		Angry		Annoyed		Avg. Neg. Emo.	
Predictor:								
Levels of Moderator	β	t	β	t	β	t	β	t
Neg. Event Intensity								
Levels of Savoring								
-1 *SD*	--	--	.44*	9.24	.45*	8.56	.42*	10.55
M	--	--	.35*	11.41	.36*	10.46	.34*	13.25
+1 *SD*	--	--	.27*	5.32	.27*	4.78	.26*	6.32
Levels of Acceptance								
-1 *SD*	.41*	8.76	.46*	9.95	--	--	.43*	11.11
M	.31*	10.10	.36*	11.58	--	--	.35*	13.53
+1 *SD*	.22*	4.48	.25*	5.25	--	--	.27*	16.58

Note: *p<.05. Avg. Neg. Emo = Mean of Sad, Angry, and Annoyed. "--" = Interaction was not significant, so simple slopes were not calculated.
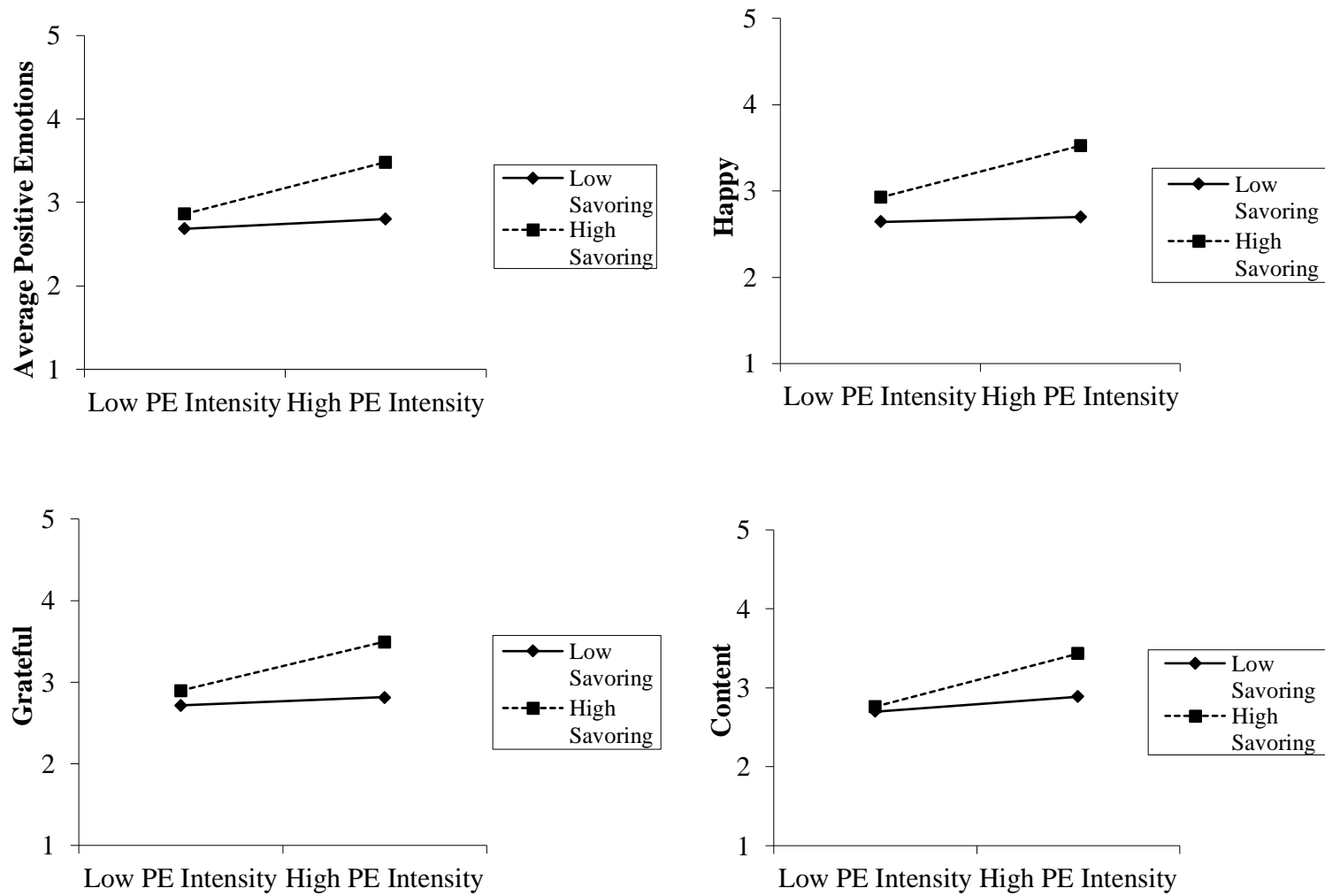
Figure 1. *Interactions between the intensity of positive daily events and savoring predicting daily positive emotions.*
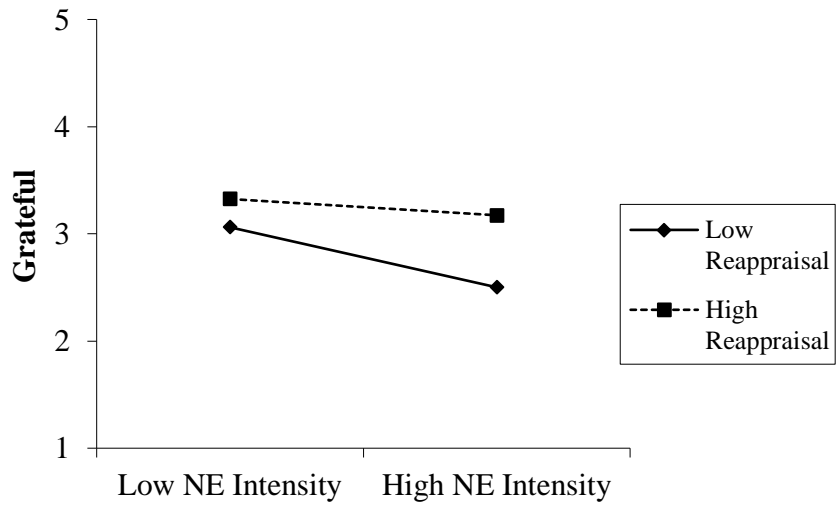
Figure 2. *Interaction between the intensity of daily negative events and reappraising negative events predicting daily gratitude.*
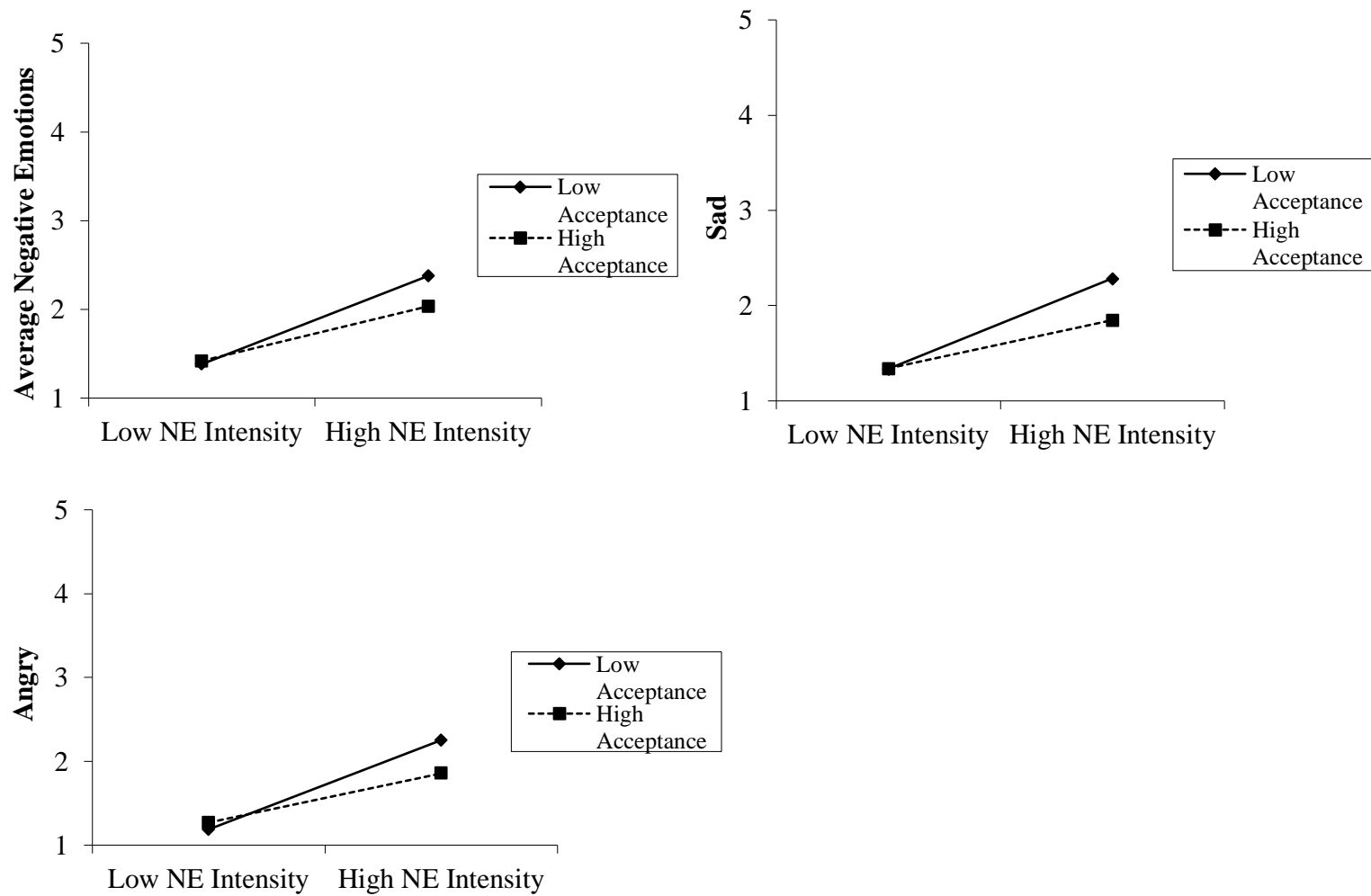
Figure 3. *Interactions between the intensity of daily negative events and accepting negative events predicting negative emotions.*
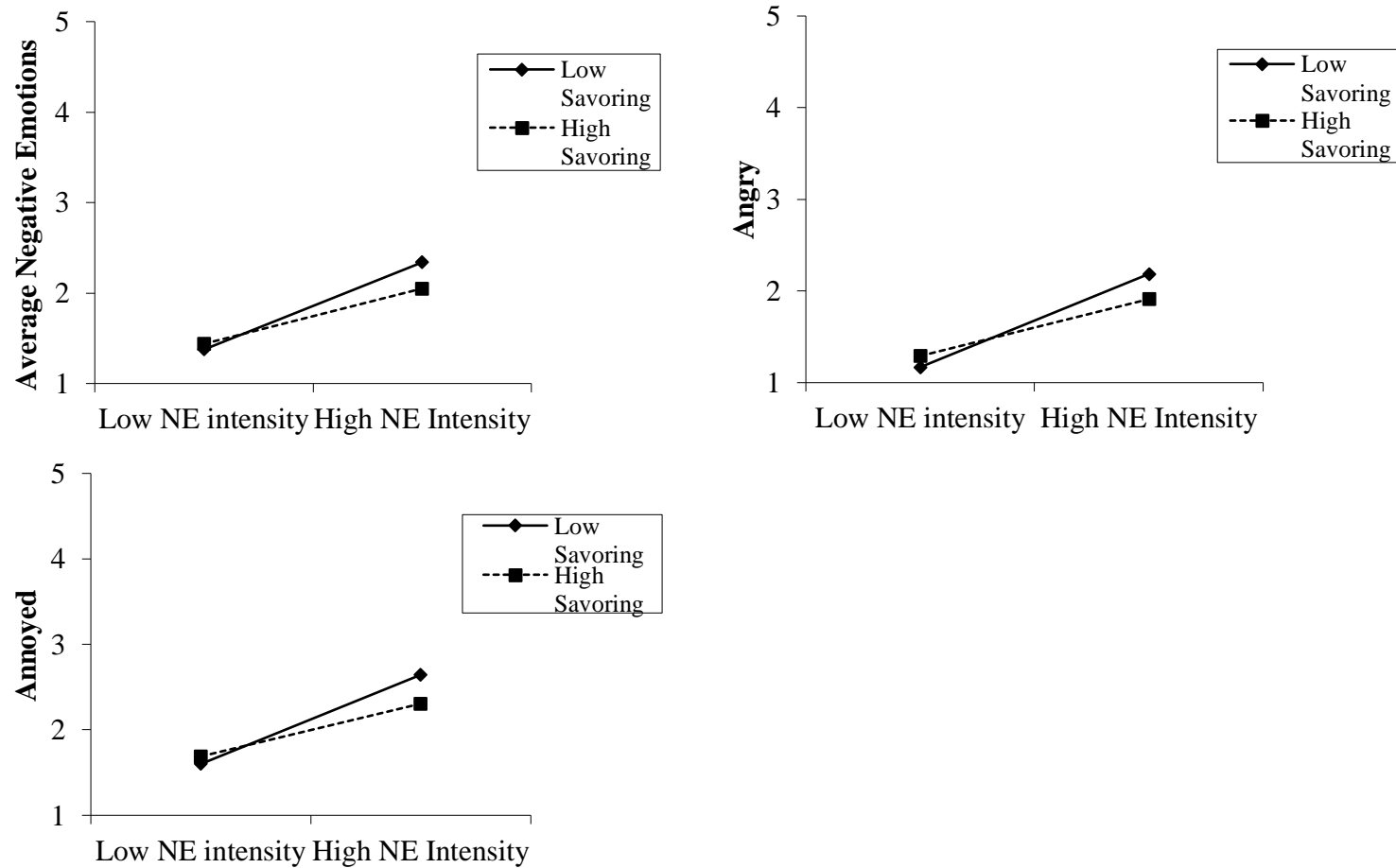
Figure 4. *Interactions between the intensity of daily negative events and savoring positive events predicting daily negative emotions, controlling for the intensity of positive events being savored.*

STUDY 2

<u>**Title and Abstract**</u>

College athlete self-compassion, positive and negative emotion regulation, and bouncing back after poor sport performances

Self-compassion (SC) facilitates healthy responses to perceived flaws and stressful events among athletes. Existing data are predominantly retrospective and many questions remain about the role of SC in athletes' daily lives. We recruited 67 college athletes across two universities and examined the role of SC in 1) emotion regulation following negative and positive events and 2) bouncing back from poor sport performances (i.e., emotional and performance-related rebound the following day). We also compared the benefits of SC to those of sport self-confidence – a popular target of clinical intervention in sport psychology, and other relevant traits, including grit and sport-specific hope (i.e., agency and perceived pathways around obstacles when working toward athletic goals). Results showed that SC and sport-specific hope predicted greater cognitive reappraisal in response to negative events. Only sport-specific hope predicted greater savoring of daily positive events. On average, social support seeking was an ineffective regulatory strategy – leading to higher daily negative emotions. However, higher levels of SC, grit, and sport-specific hope (not sport self-confidence) reduced the association between social support seeking and daily negative emotions. Following poor

athletic performances, SC predicted improved subsequent performance whereas self-confidence failed to produce resiliency effects. Instead of confidence, coaches, trainers, and sport psychology consultants might consider targeting SC, which is associated with a wider range of psychological benefits.

Introduction

Self-compassion (SC) involves treating oneself with kindness, offering non-judgmental understanding to one's shortcomings, framing personal suffering as a universal human experience, and taking a balanced view of one's emotions, both positive and negative (Neff, 2003a, 2004). SC is considered a protective factor against self-criticism, rumination, depression, anxiety, and other negative outcomes – particularly when confronted with perceived inadequacies or failures (Neff, 2003a; Neff, Hsieh, & Dejitterat, 2005). SC research with athletes has focused on correlations with self-conscious and self-evaluative emotions. While important, this line of inquiry does little more than confirm what is known about SC in the general psychological literature (e.g., Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Neff, 2003a; 2003b). Further, methods used to study SC in sport psychology (e.g., qualitative interviews and unvalidated questionnaires) are weaker than those used by social psychologists. Research on SC among college athletes should adopt modern measurement approaches while seeking to expand the nomological network of SC in the context of sport and daily life in general.

Theory suggests that athletes with higher SC may gravitate toward certain coping strategies, such as cognitive reappraisal (i.e., thinking differently about a situation),

acceptance, and social support seeking, compared to others (e.g., cognitive and behavioral avoidance) (Neff, 2003a), but this has yet to be tested among athletes. Research also suggests that SC improves the emotional regulatory benefits of cognitive reappraisal (Diedrich, Hoffman, Cuijpers, & Berking, 2016). Thus, we examined whether higher SC led to greater and more effective daily use of healthy emotion regulation strategies (e.g., reappraisal, acceptance, and social support seeking). Qualitative data suggest that athletes *believe* SC plays a role in bouncing back from poor sport performances (Sutherland et al., 2014), but this has yet to be examined empirically. We tested whether SC influences the trajectory of daily emotions and subjective sport performance from one day to the next following a below-average performance. Finally, we tested whether the benefits of SC could be better explained by sport-related self-confidence – a frequently studied construct in the sport psychology literature – and other traits relevant to college athletes: grit and sport-specific hope.

Self-compassion and regulatory responses to negative events

Cross-sectional studies suggest that SC is associated with adaptive responses to distress among athletes (e.g., Ferguson, Kowalski, Mack, & Sabiston, 2014; Reis et al., 2015; Sutherland et al., 2014), but it is unclear whether SC influences daily regulatory strategies in response to negative events. Self-compassionate athletes may gravitate toward certain regulatory strategies (acceptance and social support) more than others (cognitive and behavioral avoidance) following negative events.

Cognitive reappraisal is the act of changing one's thinking about a situation (e.g., Gross & John, 2003), typically so that resulting thoughts are more rationale and promote

41

more positive and less negative emotions. Previous research demonstrates that SC is positively associated with cognitive reappraisal (Petrocchi, Ottaviana, & Couyoumdjian, 2013; Sirois, Nauts, & Molnar, 2019). It can be also be argued that reappraisal is inherent in the process of SC. While simply noticing emotions in a nonjudgmental manner is fundamental to SC (i.e., mindfulness; Neff, 2003a, 2003b), the other two primarily components of SC, self-kindness and a sense of common humanity in the midst of suffering, likely involve cognitive reappraisal as well. It is unlikely that feelings of kindness and connectedness are default responses during stressful times, even for individuals with high SC. Instead, these individuals may be particularly skilled at reframing self-critical statements (e.g., "this is all my fault," "what's wrong with me?") to be more self-compassionate. The association between SC and reappraisal has never been explored among athletes to our knowledge.

Accepting distress, rather than avoiding it, is also inherent to SC theory (Neff, 2003a). Studies show that SC is associated with pain acceptance among chronic pain patients (Costa & Pinto-Gouveia, 2011; 2013; Wren et al., 2012). In a study of non-athlete college students, higher SC was associated with greater acceptance following a poor midterm grade (Neff et al., 2005). Theory and experimental data also suggest that clinical interventions focused on mindfulness- and acceptance-based skills may enhance self-compassion (e.g., Barnard & Curry, 2011; Yadavaia, Hayes, Vilardaga, 2014), suggesting a bidirectional association. Data also suggest that SC is negatively associated with cognitive and behavioral avoidance among depressed outpatients (Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013), college students who have experienced

traumatic events (Thompson & Waltz, 2008), and adults with cancer diagnoses (Gillanders, Sinclair, MacLean, & Jardine, 2015). Accepting rather than avoiding distress is key to emotion regulation among these high-risk populations, and data from mindfulness- and acceptance-based interventions suggest that the same is true for athletes (e.g., Bühlmayer, Birrer, Röthlin, Faude, & Donath, 2017; Noetel, Ciarrochi, Van Zanden, & Lonsdale, 2019). Perhaps greater SC is a key, underlying trait that promotes greater acceptance and less avoidance in the daily lives of college athletes.

Data are mixed on the association between SC and social support seeking. Some studies suggest no relationship (e.g., Leary et al., 2007; Neff et al., 2005); however, neither of these studies examined social support seeking naturalistically. Some evidence suggests that compassion for others, SC, and *receiving* compassion from others (i.e., social support) are interrelated, as they can all be enhanced through participation in a compassion cultivating program (Jazaieri et al., 2013). Related research suggests that self-criticism, a facet of low self-compassion, is also associated with fears of receiving compassion (Gilbert, McEwan, Matos, & Rivis, 2010); implying that greater self-kindness, or SC, is associated with greater openness to seeking support and compassion from others during difficult times.

Recent data lend indirect support to a SC-social support connection, suggesting that higher SC is associated with healthier interpersonal functioning (e.g., compassion for others, empathy, perspective-taking) (Neff et al., 2018). Perhaps athletes with higher SC who are more interpersonally skilled are better able to seek out social support from teammates, coaches, and other significant people in their lives. An experimental study

43

found that when people higher in SC described their greatest weaknesses, they were more likely to use "we" statements (drawing connections to friends, family, and others in general) compared to those with lower SC, who used more "I" statements (Neff, Kirkpatrick, & Rude, 2007). This suggests that when confronted with their own failures or shortcomings (e.g., poor performances, losses), athletes with higher SC may feel a sense of connection and community, which may lead to greater willingness to seek social support in response to daily stressors.

Does self-compassion enhance daily emotion regulation?

In addition to gravitating toward certain regulatory strategies, research suggests that athletes with higher SC may receive more benefit from these strategies than those with lower SC. Because acceptance is inherent to mindfulness and mindfulness is a core component of SC (Neff & Dahm, 2015), it follows that athletes with higher SC should be more skilled at using acceptance as a regulatory strategy. SC may also be associated with more effective social support seeking as an emotion regulation strategy. Imagine a typical scenario in which an athlete seeks social support from a close friend on her team following a key mistake during a game. Compassion and support from her teammate may be less effective if she herself is not *self*-compassionate. She may discount her teammates' support and continue treating herself harshly, perhaps because this support conflicts with her own self-image or because she fears what might happen if she becomes less self-critical (e.g., "I'll get complacent," "my performance will suffer even more"). If athletes are less kind to themselves when distressed, the kindness of others may be of little benefit.

Perhaps the strongest evidence exists supporting SC's role in strengthening the regulatory benefits of cognitive reappraisal. One study found that greater self-acceptance, similar to self-compassion, strengthened the association between emotion regulation efforts and enhanced affect (Kivity, Tamir, Huppert, 2016). Another study of 466 college students with trauma histories showed that SC was negatively associated with emotion regulation difficulties, implying that greater SC is associated with more effective emotion regulation (Barlow, Turow, & Gerhart, 2017). Strong experimental data point to similar conclusions. When researchers induced depressed mood among patients with major depressive disorder, SC was associated with a stronger link between cognitive reappraisal and emotions (Diedrich, Hofmann, Cuijpers, & Berking, 2016). Further research is needed, however, to explore SC and enhanced regulatory benefits of cognitive reappraisal in the daily lives of college athletes.

Self-compassion and regulatory responses to positive events

Regulating emotions related to negative events has consumed much of psychological science. Regulating emotions related to *positive* events has received much less attention but plays a crucial role in well-being nonetheless (e.g., Bryant, 2003). Savoring – a positive emotion regulation strategy – involves generating, enhancing, or prolonging positive affect before, during, or after positive experiences (Bryant & Veroff, 2007). Savoring can take many forms, including allowing oneself to fully express positive affect, seeking out people to share a positive experience with, feeling grateful, congratulating oneself, focusing on physical/sensory stimuli (i.e., sensory-perceptual sharpening), and mindfully taking stock of important details in order to remember them

later (Bryant & Veroff, 2007). Consistent with savoring theory, research demonstrates that savoring positive experiences can help maintain and amplify positive emotions (Bryant, Chadwick, & Kluwe, 2011; Jose, et al., 2012).

Savoring has received growing attention in the literature with the continued expansion of positive psychology (Donaldson, Dallwet, & Rao, 2015) and positive psychology interventions (Bolier et al., 2013; Casellas-Grau, Font, & Vives, 2014; Waters, 2011). Clinicians and researchers have become increasingly interested in enhancing well-being, and savoring specifically, among a variety of non-clinical populations, including students (e.g., Seligman, Ernst, Gillham, Reivich, & Linkins, 2009), but the benefits of savoring remain unexplored among student-athletes. For college athletes, savoring positive experiences may not only enhance positive emotions, but buffer against the stress of high training intensity, high performance expectations, and excessive time demands. While coaches and teams may state their intentions to "savor this win" in the locker room or during a postgame press conferences, these claims are often quickly followed by the need to "get back to work tomorrow." Savoring is often referenced at the team level, typically regarding big wins, but it is unclear to what extent savoring helps individual athletes in daily life and what traits increase the probability of savoring.

The idea that SC may be associated with greater savoring is underexplored in the literature, and, to our knowledge, no studies exist on the role of SC and savoring among college athletes. However, theoretical links between SC and savoring are strong. Clinical interventions focused on enhancing self-compassion tend to target savoring (e.g., food or

nature), among other mindfulness-based techniques as a means of reducing distress and enhancing well-being (e.g., Germer & Neff, 2013; Gilbert, 2009). A central component of SC is the ability to treat oneself with kindness, which involves the core belief that one deserves to feel good and have positive experiences. Research indirectly supports this idea, as SC has been associated with greater initiative to make positive changes in one's life (Neff, Rude, & Kirkpatrick, 2007).

Rather than discounting positive experiences in sport (e.g., a coach's compliment, making a good play in practice) or in other life domains, perhaps self-compassionate athletes feel more deserving of positive experiences and are more likely to savor them. Athletes with high compared to low SC may even receive greater emotional benefits from savoring compared to those with low SC. For athletes with low SC, relishing accomplishments and happy moments may feel inauthentic or even detrimental to their continued progress. To the contrary, SC may enhance sport performance (and emotional resilience) particularly in the wake of failure.

SC and bouncing back after poor sport performances

Theory and research suggest that SC is particularly helpful when confronted with perceived failures and inadequacies (Neff, 2003a; Neff et al., 2005). As such, researchers have begun studying the role of SC in coping with losses and poor performances among athletes. Studies of youth and collegiate athletes suggest that greater SC is associated with lower fears of failure and negative evaluation (Mosewich et al., 2011), lower self-criticism and concern over mistakes (Mosewich et al., 2013), and healthier responses (e.g., lower negative affect and catastrophizing) to difficult hypothetical and recalled

sport events (Reis et al., 2015). These findings suggest that SC should not only help athletes regulate emotions in response to poor sport performances, but also bounce back and perform better the next day compared to athletes with lower SC.

While SC and performance rebound has not been studied among athletes, a recent study showed that SC was associated with greater subjective sports performance on average during a single competition (Killham, Mosewich, Mack, Gunnell, & Ferguson, 2018). This could simply suggest that self-compassionate athletes have an artificially inflated sense of their achievements, but previous theory and research suggests otherwise; SC has been associated with more realistic self-assessments and a tendency to take ownership and learn from failure (Leary et al., 2007; Shepherd & Cardon, 2005). It is more likely that athletes with high SC move on faster from mistakes, are appropriately (not harshly) self-critical, and maintain effective attention during performance without getting swept away by previous mistakes. Athletes with high SC may perform better on average, but more specifically, perform better on days following poor performances compared to athletes with low SC. Perhaps SC is even a stronger predictor of sport performance than other traits, such as confidence, which researchers and sport psychologists have narrowly focused on for decades.

Comparing self-compassion to other traits: Sport self-confidence, grit, and hope

Sport self-confidence is defined as one's perceived capability to accomplish a certain level of performance (Feltz, 2007). This coincides with the definition of self-efficacy, or the belief that one can successfully execute specific behaviors required to produce a desired outcome (e.g., winning) (Bandura, 1977). On the heels of Bandura's

theory, self-confidence and related constructs (e.g., self-efficacy and self-esteem in sports) received much attention in sport psychology (e.g., Mahoney, Gabriel, & Perkins, 1987; Martin & Gill, 1991; Moritz & Feltz, 2000; Vealey, 1986; Vealey, Garner-Holman, Hayashi, & Giacobbi, 1998). Today, despite a wealth of data from the general psychological literature on other performance-relevant constructs (e.g., grit, self-control, mental toughness, psychological flexibility) self-confidence persists as a key target of intervention for many coaches, trainers, and applied sport psychologists.

In sports, as in life in general, self-confidence is far from a panacea. This is due in part to the fact that self-confidence is contingent upon external factors. Bandura's theory of self-efficacy implies that self-confidence in athletic contexts depends on four primary sources: past performance accomplishments, vicarious experiences (e.g., witnessing friends or teammates perform well), verbal encouragement and persuasion, and psychological states (e.g., arousal, anxiety) (Feltz, 2007). To be a highly confident athlete and successful, fluctuating, largely uncontrollable factors must fall into place at the right time.

Other, more stable ways of relating to oneself – particularly when things go wrong, may better facilitate athletes' performance success and well-being. While no studies to our knowledge have directly compared SC and self-confidence in athlete samples, several studies have examined the psychological benefits of SC versus self-esteem among undergraduates and community adults. One study of 2,187 adults found that, compared to self-esteem, SC predicted more stable feelings of self-worth and was less contingent upon external outcomes. SC also had a stronger negative association with

social comparison, public self-consciousness, self-rumination, and anger compared to self-esteem (Neff & Vonk, 2009). Another study found that SC provided greater emotional resilience and stability than self-esteem and did so with less self-evaluation and ego-defensiveness (Neff, 2011). Compared to self-esteem, SC is a stronger predictor of adaptive responses to perceived failures, past negative experiences, and critical personal feedback (Leary et al., 2007). Together, these studies suggest that SC provides a more stable, adaptive stance toward the self, particularly in difficult times; without the downsides of self-esteem/self-confidence (e.g., excessive ego focus, reliance on uncontrollable factors). Further research is needed to understand the effectiveness of SC versus self-confidence in predicting well-being and performance-related outcomes among athletes. Grit and hope may also be valuable candidates for further study in sports.

Grit is defined as persistence and passion for long term goals (Duckworth & Quinn, 2009) and is associated with greater academic achievement, higher educational attainment, and greater performance and retention in the military (Duckworth & Quinn, 2009; Eskreis-Winkler, Duckworth, Shulman & Beal, 2014; Wolters & Hussain, 2015). Despite common belief that grit is a helpful trait for athletes, grit is rarely studied in sport contexts. Some data suggest that grittier athletes accumulate significantly more time in practice, competition, and other sport-related activities and demonstrate better sport-specific cognitive-perceptual skills compared to less gritty athletes (Larkin, O'Connor, & Williams, 2016). Less gritty athletes may fail to translate motivation feedback from others (e.g., teammates or coaches) into performance improvements (Moles, Auerbach, & Petrie, 2017). Grit is also associated with pride among athletes and exercisers (Gilchrist,

Fong, & Herbison, 2018), suggesting that grit may predict other positive emotional states among athletes in daily life.

Hope, which is perhaps less studied among athletes, may also promote similar benefits. Hope is defined as the perceived capability to devise different routes toward goals (i.e., pathways) and the belief that one can effectively initiate action along these pathways to achieve goals (i.e., agency) (Snyder, 1991). While hope is not a standard target of sport psychology interventions, a small body of research suggests that hope is associated with meaningful athletic outcomes. According to one study, not only was hope higher on average among college athletes than non-athletes, but trait hope predicted greater athletic achievement among women's cross-country runners. State hope, an even stronger predictor, was associated with athletic achievement above and beyond training, mood, confidence and self-esteem (Curry, Snyder, Cook, Ruby, & Rehm, 1997).

Hope is associated with significantly lower sport burnout, suggesting that more hopeful athletes feel less defeated when their performance goals or not met (Gustafsson, Hassmén, & Podlog, 2010). In a landmark study, 10 U.S. Olympic gold medalists (winners of 32 Olympic gold medals combined) completed a battery of questionnaires with the goal of understanding the psychological profiles of the most elite athletes in the world (Gould, Dieffenbach, & Moffett, 2002). Results revealed several key traits that characterized these athletes, including the ability to regulate anxiety, coachability, concentration, high dispositional hope, and the ability to set and achieve goals (a known outcome of high hope; Feldman, Rand, & Kahle-Wrobleski, 2009). The authors concluded, "…dispositional hope and high levels of optimism are new variables to

consider (Gould et al., 2002; p. 172)." Yet, there is still much to learn about the benefits

of hope (i.e., henceforth referred to as "sport-specific hope" or simply "hope") for

achieving sport goals in the daily lives of athletes.

The present study

  Research is beginning to uncover the various benefits of SC for general and

athletic populations. It remains unclear if SC plays a unique role in athletic performance

and well-being or if other, related traits me be similarly beneficial. To address these gaps,

we propose the following hypotheses:

1. SC will predict greater acceptance, social support seeking, and cognitive
   reappraisal and less cognitive and behavioral avoidance in response to daily
   negative events. SC will also predict greater savoring in response to positive
   events.

2. SC will strengthen the daily emotion regulatory effects of acceptance, social
   support, and cognitive reappraisal (controlling for negative event intensity) and
   savoring (controlling for positive event intensity).

3. SC will be more strongly associated with subjective sport performance on days
   following lower than average subjective performance. Trait sport self-confidence
   will not provide the same benefits after poor performances.

   Exploratory: For each of the above hypotheses, we will compare the effects of SC
   to grit, sport-specific hope, and sport self-confidence – testing whether the
   benefits conferred by SC are similar to those of other traits more conventionally
   associated with well-adjusted, successful athletes.

Method

Participants and procedures

Participants were 67 collegiate athletes from George Mason University (GMU; *n* = 53) and Catholic University of America (CUA; *n* = 14). Athletes represented various sports, including women's soccer, women's volleyball, men's and women's swimming and diving, men's and women's basketball, men's and women's cross country and track and field, women's lacrosse, and softball. Recruitment procedures differed slightly between universities. At GMU, team coaches were contacted via email and given general study information. If coaches expressed interest, a member of the research staff scheduled a meeting with the full team to explain the nature of the research, train athletes on the daily diary software (PACO Personal Analytics Companion; Evans, 2017), and obtain informed consent. Athletes were eligible to participate if they spoke and read English and owned a smartphone with a reliable internet connection. The average age of the final sample was 19.85 (*SD* = 1.25). Participants were 89% women; 91.1% White, 3.5% Hispanic/Latino, 2.4% Asian/Pacific Islander, and 2.9% Other.

Athletes who provided written consent to participate were re-contacted via email and invited to completed baseline measure of self-compassion and sport-related self-confidence followed by a daily diary assessment via PACO (Personal Analytics Companion; Evans, 2017). Athletes from different teams completed the daily diary portion of the study at different times during their respective seasons, which were specified by coaches (at GMU) or the athletes themselves (at CUA) based on the number and importance of practices and competitions. Participants were pinged daily at 7:00 PM

for 14 consecutive days to complete short, 5-10-minute surveys about their day, which included questions about their most positive and negative experiences (sport or non-sport related), positive and negative emotions, regulatory responses to their most positive and negative events, and subjective sport performance during practice relative to their performance goals. Participants were instructed to respond to survey questions after finishing all sport-related activities that day and complete it by 3:00 AM. All procedures were approved by both universities' IRBs.

Measures

Trait

    Self-Compassion Scale (SCS; Neff, 2003b). Self-compassion was measured with the 26-item SCS. The SCS includes three positively-frame subscales (indicating high SC) and three negatively framed subscales (indicated low SC). The positively-framed subscales are Self-Kindness (5 items; e.g., *"I try to be understanding and patient toward those aspects of my personality I don't like"*), Common Humanity (4 items; e.g., *"When things are going badly for me, I see the difficulties as part of life that everyone goes though"*), and Mindfulness (4 items; e.g., *"When I fail at something important to me and try to keep things in perspective"*). The negatively-framed subscales are 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 Over-Identification (4 items; e.g., *"When I fail at something important to me I become consumed by feelings of inadequacy"*). Items are scored on a 5-point scale ranging from *"Almost never"* to

54

"Almost always." Mean scores were averaged across the 6 subscales to generate a total self-compassion score. Evidence suggests that the total SCS score is a valid and reliable indicator of self-compassion across numerous populations (Neff, 2016; Neff, Whittaker, & Karl, 2017). Reliability was acceptable in the present sample (α = .92).

Short Grit Scale (Grit-S; Duckworth & Quinn, 2009). The 8-item Grit-S measures perseverance and passion for long-term goals using two subscales: Perseverance of Effort (e.g., *"Setbacks don't discourage me"*) and Consistency of Interest (all items reverse-scored; e.g., *"I have difficulty maintaining my focus on projects that take more than a few months to complete"*). Items are scored on a 5-point Likert scale from *"Not like me at all"* to *"Very much like me."* A total grit score was calculated by averaging Persistence of Effort items with reverse-scored Consistency of Interest items. Research demonstrates that higher levels of grit on the Grit-S are associated with greater academic achievement, higher educational attainment, and greater retention in the military, workplace, school, and even longer-lasting marriages (Duckworth & Quinn, 2009; Eskreis-Winkler, Duckworth, Shulman & Beal, 2014; Wolters & Hussain, 2015) (α = .78).

Goal-Specific Hope Scale (GSHS; Feldman et al., 2009). The 6-item GSHS was created to test Snyder's (1994) hypothesis that hope predicts goal attainment. Using two subscales, the GSHS measures the extent to which people believe they can effectively work toward and achieve a particular goal – Agency (e.g., *"My past experiences have prepared me well for trying to attain this goal," "I believe that I will meet this goal that I have set for myself"*) and their ability to flexibly devise multiple paths toward achieving

that goal – Pathways (e.g., *"I can think of many ways to achieve this goal," "If I had problems achieving this goal, I could think of lots of ways around these problems"*). Instructions were modified slightly for this study such that participants chose a sport-specific goal they were currently working on that was central to their lives. A GSHS total score was calculating by averaging all 6 items. Previous research demonstrates that the GSHS predicts progress toward self-nominated goals at 1-month follow-up above and beyond Snyder's Hope Scale (Snyder et al., 1991) ($\alpha = .85$).

Trait Sport Confidence Inventory (TSCI; Vealey, 1986). The 13-item TSCI measures athletes' dispositional beliefs about their ability to perform in sport competition. Athletes are asked to compare their confidence in various domains of sports performance against the most confident athlete they know (e.g., *"Compare your confidence in your ability to make critical decisions during competition to the most confident athlete you know," "Compare your confidence in your ability to adapt to different game situations and still be successful to the most confident athlete you know"*). Items are scored on a 9-point scale from "*Low*" to "*High.*" The TSCI has been shown to predict sport-related self-efficacy (Martin & Gill, 1991), sport performance (e.g., predicted versus actual marathon times; Gayton & Nickless, 1987), and perceived coping abilities in sport (Cresswell & Hodge, 2004) ($\alpha = .96$).

Daily

Positive and negative emotions. Daily positive and negative emotions were measured using select emotion adjectives from the Positive and Negative Affect Schedule – Extended Form (PANAS-X; Watson & Clark, 1999): *Cheerful, Joyful, Content, Sad,*

56

and *Angry.* We added two additional adjectives for this study: *Grateful* and *Annoyed.* We used only seven emotion items for greater simplicity and lower participant burden while capturing emotions across the valance and arousal dimensions (e.g., Joyful = high valence/high arousal, Content = high valence/low arousal, Angry = low Valance/high arousal, Sad = low valence/low arousal; see Gerber et al., 2008). *Joyful* and *Cheerful* were highly correlated at the between- ($r = .95$) and within-person level ($r = .70$) and were combined to form a composite variable, *Happy.* The resulting three positive emotion adjectives were averaged to create the positive emotions scale ($R_C = .84$), and the three negative emotion adjectives were averaged to create the negative emotions scale ($R_C = .77$).

Positive and negative events. Participants reported on their most positive event that day with the following item: *"Please describe today's most positive event. Be as specific as you can."* They rated the intensity of their most positive events (*"How positive was this event?"*) on a 5-point Likert scale from "Not at all" to "Extremely." Participants also reported on their most negative event that day (*"Please describe today's most negative event. Be as specific as you can."*). Participants then provided an appraisal of the intensity of their most positive and negative event each day ("How [positive/negative] was this event?") using the same 5-point Likert scale.

Ways of Savoring Checklist (WOSC; Bryant & Veroff, 2007). Participants rated the extent they savored their most positive daily events using the four WOSC items with the highest factor loadings from Jose and colleagues (2012). Items included, *"I talked to another person about how good I felt," "I looked for other people to share it with," "I*

thought about what a lucky person I am that so many good things have happened to me," and *"I thought about sharing the memory of this later with other people."* Savoring items were averaged together to create a total savoring score ($R_C = .75$).

 Emotion regulation strategies. Participants rated the extent that they used various emotion regulation strategies in response to daily negative events using items from Aldridge-Gerry and colleagues' daily coping scale. Items from this scale were drawn from other validated coping measures, including the Brief COPE (Carver, 1997), the How I Coped Under Pressure Scale (Sandler, Tein, Mehta, Wolchik & Ayers, 2000), and the Responses to Stress Questionnaire (Connor-Smith et al., 2000). For the present study, we focused on frequently researched regulatory strategies that we believed would be associated with SC, including, Social Support Seeking ($R_C = .75$) – comprised of Emotion-Focused (two items; e.g., *"I talked to my family about how I was feeling"*) and Problem-Focused Support ($R_C = .82$) (two items; e.g., *"I figured out what I could do by talking to my friends"*), Cognitive Reappraisal ($R_C = .78$) (2 items; originally called "positive cognitive restructuring," e.g., *"I reminded myself that things could be worse"*), Acceptance ($R_C = .32$) (two items; e.g., *"I learned to live with it"*), Problem-Solving ($R_C = .82$) – comprised of Direct Problem-Solving (2 items; e.g., *"I did something to solve the problem"*) and Cognitive Decision-Making (2 items; e.g., *"I thought about what I need to know to solve the problem"*), Behavioral Avoidance ($R_C = .51$) (two items; originally called "avoidant actions," e.g., *"I tried to stay away from the problem"*), and Cognitive Avoidance ($R_C = .43$) (two items; e.g., I tried to put it out of my mind). Items were rated on a 4-point Likert scale from *"Not at all"* to *"A lot."* Research suggests that

this measure, and the scales from which it is adapted, predict daily alcohol consumption (Aldridge-Gerry et al., 2011), trait levels of fear (Ollendick, Langley, Jones, & Kephart, 2001), heart-rate reactivity to stress and internalizing/externalizing symptoms (Connor-Smith et al., 2000), and changes in the symptom severity of psychological disorders (e.g., Meyer 2001).

   Subjective sport performance. To our knowledge, no validated measures of subjective sport performance exist. Thus, we created one item assessing subjective sport performance during practice for this study. We focused on practice since athletes had far more practices than competitions during the daily assessment period. Rather than simply asking athletes how well they performed today without context, we tied athletes' subjective performance ratings to their goals for a given practice: *"indicate how well you performed in today's practice relative to your own personal goals,"* and responded using a 5-point Likert scale (1 = *"I fell significantly short of my goals,"* 2 = *"I came close to, but did not achieve my goals,"* 3 = *"I met my goals,"* 4 = *"I slightly surpassed my goals,"* 5 = *"I surpassed my goals"*).

Data analytic strategy

   To evaluate the interdependence of observations, we examined the intraclass correlations (ICCs) for each daily outcome (daily positive and negative emotions, coping strategies, savoring, and subjective sport performance). Results showed a substantial proportion of variance attributable to differences between people (ICC range = .23 - .48, Table 8). As such, hypotheses were tested using two-level models with daily observations at level 1 (e.g., emotions, regulatory strategies, subjective sport performance) nested

59

within people at level 2 (e.g., SC, grit, etc.). All level 1 predictors were within-person mean centered so that scores represented deviations from each participant's mean over the daily diary assessment period. All level 2 predictors were group-mean centered.

The reliability of daily multi-item scales was calculated in SPSS based on G Theory (e.g., Brennan, 1992; Shrout & Lane, 2012) using code specified by Bolger & Laurenceau (2013). This approach is optimal for repeated daily measures in multi-level models and allowed us to account for multiple sources of variance, including differences between people, items, and time (i.e., days). Specifically, our index of reliability ($"R_C"$) assessed the extent to which within-person-changes were reliable across days. R_C is higher when variance in a given measure is predominantly attributable to differences across people and time rather than differences across items and error.

Primary analyses were performed using R 3.6.1 (R Core Team, 2019). To test whether SC and other traits predict daily regulatory strategy use (Hypothesis 1), we constructed separate multilevel models with trait SC, sport self-confidence, grit, and sport-specific hope (level 2) predicting daily cognitive reappraisal, problem-solving, social support seeking, acceptance, cognitive avoidance, and behavioral avoidance, controlling for the intensity of negative events (all at level 1). To test whether SC and related traits predict more effective regulatory strategies in response to negative and positive events (Hypothesis 2), we constructed separate moderated multilevel regressions with daily regulatory strategies in response to negative events (cognitive reappraisal, problem-solving, social support seeking, and acceptance) predicting daily positive and negative emotions moderated by SC, sport self-confidence, grit, and sport-specific hope.

We then constructed similar models with emotion regulation in response to *positive* events (i.e., savoring) predicting daily emotions, moderated by the same traits.

To test whether SC predicts greater emotional and performance-related rebound on days following poor sport performances (Hypothesis 3), we created day-lagged within-person mean centered scores for our subjective practice performance item (athlete's ratings of their daily practice performance relative to their performance goals). This variable represented the degree to which participants' subjective performance from the prior day deviated from their mean across the daily diary assessment period. We then constructed multilevel models with SC, sport-self-confidence, grit, and sport-specific hope predicting daily subjective practice performance moderated by previous-day subjective practice performance (within-person mean centered, lagged). Average daily positive and negative emotions were also entered as outcomes.

Results

Descriptive statistics

Between- and within-person correlations and descriptive statistics for primary study variables are presented in Table 8. Participants (N = 67) completed an average of 12.89 daily diaries (*SD* = 2.19) for a total of 836 daily observations. Several participants completed more than the 14 required daily diaries (n = 12, maximum daily dairies completed = 16). Daily diary compliance was not significantly correlated with daily positive and negative emotions or subjective sport performance in practice at the within-person level and was thus not accounted for during analyses. Due to missing data at level 2, hypotheses 1 and 2 were testing using 611 daily observations from 49 athletes. More

data were missing for hypothesis 3, which focused on occurrences of back-to-back practice days. For this hypothesis, analyses were performed using 128 daily observations (i.e., days in which athletes had practice that day and the day before) from 34 athletes.

The reliability of primary daily measures was generally high except for the two-item acceptance scale (R_C = .32). When examining the items comprising this scale, it is understandable that participants may have responded differently to, *"I learned to live with it"* versus, *"I just accepted the fact that this is the way it is."* While this scale was designed for daily use (e.g., Aldrige-Gerry, 2011), "learning to live with it" may be less applicable to daily stressors (which are often transient and do not require long-term recalibration of expectations) and thus, may have decreased internal consistency. Still, our acceptance measure arguably captures two different features of acceptance, broadening content validity compared to a single-item measure. It is no surprise that reliability was lower on average for 2-item daily scales (except for cognitive reappraisal; R_C = .78) compared to measures with three or four items (e.g., positive and negative emotions, savoring). As a caveat, appropriate methods for calculating the reliability of daily measures in multilevel models are poorly understood, and when done correctly, reliability may lower than when using conventional methods (e.g., cronbach's alpha) as if observations were independent (i.e., not nested) (Nezlek, 2011; 2012).

Hypothesis testing

Hypothesis 1: SC will predict greater acceptance, social support seeking, and cognitive reappraisal and less cognitive and behavioral avoidance in response to daily negative events. SC will also predict greater savoring in response to positive events.

Controlling for daily negative event intensity, trait SC was associated with greater use of daily cognitive reappraisal. Hope also predicted greater use of daily cognitive reappraisal controlling for negative event intensity. No other associations between traits (e.g., grit, sport self-confidence) and daily regulatory strategies in response to negative events (acceptance, social support seeking, cognitive or behavioral avoidance) emerged. Controlling for daily positive event intensity, SC was associated with daily savoring of positive events in the hypothesized direction, but the effect was not significant. Sport-specific hope was the only trait examined that predicted greater daily savoring of positive events while controlling for event intensity (Table 9).

Hypothesis 2: *SC will strengthen the daily emotion regulatory effects of acceptance, social support, and cognitive reappraisal (controlling for negative event intensity) and savoring (controlling for positive event intensity).*

Sport self-confidence was the only trait the moderated the association between greater use of acceptance as a regulatory strategy and greater positive emotions. Specifically, acceptance was not associated with greater positive affect for those with lower sport self-confidence but was associated with greater positive affect for those with higher sport self-confidence. As expected, SC moderated the association between social support seeking and negative affect. However, contrary to our hypothesis, greater social support seeking was associated with *greater* daily negative affect even after controlling for negative event intensity. Athletes with low SC demonstrated a stronger positive association between social support seeking and negative affect while those with higher SC demonstrated a weak and non-significant positive association.

63

Similar findings emerged in models containing grit and sport-specific hope as moderators in place of SC. In these cases, the positive association between daily social support seeking and negative affect was again attenuated by higher levels of grit and hope. No interactions between cognitive reappraisal and SC or other trait predicting daily emotions were significant. Regarding savoring, neither SC nor any other traits examined moderated associations between daily savoring and daily emotions (Tables 10 & 11, Figure 5).

Hypothesis 3: *SC will be more strongly associated with subjective sport performance on days following lower than average subjective performance. Trait sport self-confidence will not provide the same benefits after poor performances.*

Main effects for SC and previous-day subjective practice performance predicting next-day subjective practice performance were not significant. Consistent with our hypothesis, previous-day subjective practice performance moderated the association between SC and next-day subjective practice performance. SC was not associated with subjective practice performance following days in which people performed at or above their average during the daily diary assessment period. However, SC was associated with significantly improved subjective practice performance following days when athletes performed one standard deviation below their mean.

Consistent with our hypothesis, similar moderation effects did not emerge when replacing SC with trait sport self-confidence as a predictor. In these models, there were no significant main effects or interactions. However, previous day subjective practice performance was also a significant moderator in models containing grit and sport-specific

hope as predictors. Similar to SC, grit and hope did not predict subjective practice performance following days when athletes performed at or above their mean during the daily diary assessment period. On days when athletes performed one standard deviation below their mean ($n = 31$), though, grit and hope predicted significant improvements in subjective practice performance the following day (Tables 12 & 13, Figure 6).

Discussion

This study investigated the effects of SC on the use of emotion regulation strategies in response to positive and negative events in the daily lives of athletes, whether SC enhances the effectiveness of daily emotion regulation strategies related to these events, and whether SC predicts increased subjective sport performance on days following poor performances in particular. Results showed that SC and sport-specific hope predicted greater cognitive reappraisal in response to negative events while only sport-specific hope predicted greater savoring of daily positive events. Interestingly, greater social support seeking predicted worse daily emotions, but higher SC, grit, and sport-specific hope attenuated these associations. Higher sport self-confidence enhanced the regulatory benefits of daily acceptance on positive emotions. Lastly, SC, grit, and sport-specific hope were associated with increased subjective sport performance, but only on days following below-average performances. Similar effects were not observed for sport self-confidence.

Our study found a positive association between trait SC and cognitive reappraisal in daily life. Data on how highly self-compassionate people feel and cope in daily life is scarce, and particularly for athletes, who are often confronted with unrelenting external

critiques and criticism, which may become internalized (Mosewich et al., 2011). While cognitive reappraisal is not explicit in SC theory (e.g., Neff, 2003a, 2003b), perhaps self-compassionate people are more inclined to use reappraisal in daily life since they are already well-practiced in re-interpreting distress in self-compassionate ways. It is unlikely that self-compassionate people, including athletes, are born with the capacity to be kind to themselves during distress. Rather, self-compassion, at least at first, may require consistent, effortful reframing of catastrophic thinking and harshly self-critical dialogue.

Higher sport-specific hope predicted greater daily reappraisal in addition to greater savoring. Given conceptual overlap and moderate-to-strong correlations among these variables, perhaps hope, cognitive reappraisal, and savoring are influenced by a fourth variable. Psychological flexibility, or the ability to respond to distress in ways that facilitate valued goal pursuit (Kashdan, Disabato, Goodman, Doorley, & McKnight, in press), may provide the fertile ground for each of these traits/states to flourish. Psychologically flexible people are well attuned to the present moment, and thus, may be more inclined to mindfully savor positive experiences. They are better able to persist or change in behavior based on what a given situation affords while pursuing meaningful, values-consistent goals (Hayes, Strosahl, & Wilson, 2011; Kashdan & Rottenberg, 2010). This overlaps with the pathways dimension of hope (Snyder, 1991) – the ability to creatively devise different routes towards goals. Flexibly persisting or changing in behavior in the service of goals, despite distress, requires skillful emotion regulation (Kashdan & Rottenberg, 2011). Perhaps psychologically flexible athletes are more adept

at reappraising stressful events while acting in service of their sport-related goals and remaining receptive to whatever arises in the present moment, including positive events. While sport psychology interventions have already been adapted from clinical packages targeting psychological flexibility (e.g., Gardner & Moore, 2007; Shortway, Wolanin, Block-Lemer, & Marks, 2018), psychological flexibility is rarely measured explicitly among athletes. More basic research is needed to understand the correlates and benefits of psychological flexibility among athletes.

The fact that social support-seeking predicted greater daily negative emotions may seem initially peculiar. Social support seeking is often considered an adaptive form of emotion regulation, which promotes emotional and physical health (e.g., Demaray & Malecki, 2002; Frasure-Smith et al., 2000; Turner, 1981). However, some research suggests that social support-seeking in the form of co-rumination (i.e., discussing and revisiting problems, speculating about problems, and focusing on negative feelings), is common among close friend groups (e.g., athletic teams) and is associated with elevated depression and anxiety (Rose, 2002). Since our sample was overwhelmingly comprised of females, it may be that social support-seeking took the form of co-rumination and was thus associated with poor emotional outcomes. However, it is important to differentiate social support *seeking* from the *perception* that one is obtaining the support they desire.

These differences, along with the medium through which support was sought (in-person, via phone, online, etc.), may help explain our findings. Data suggest that social support sought through social media sites, such as Facebook, reduces adolescents' depressed mood if they perceive adequate support but *increases* depressed mood if they

do not (Frison & Eggermont, 2015). Of course, perceived social support, beyond mere efforts to obtain it, is also important for emotion regulation beyond the realm of social media (Norris & Kaniasty, 1996). Perhaps athletes in our sample sought social support but perceived support to a lesser degree, which led to greater negative emotions.

Whether social support was obtained in the form of co-rumination or was sought but not obtained, it makes sense that SC, grit, and sport-specific hope buffered the negative emotional effects of support seeking. SC may have helped athletes self-soothe and feel connected to others during difficult times even if the support they sought was inadequate. After all, SC is correlated with the perception of social support and a greater sense of belonging (e.g., Alizadeh, Khanahmadi, Vedadhir, & Barjasteh, 2018). When social support sought is not adequate, self-compassionate athletes may be better at showing themselves the kindness and support they seek from others. Grit may be less theoretically intertwined with social support, but grit does predict perseverance in the face of challenges. Perhaps grittier athletes who sought support unsuccessfully or received poor support following difficult sport-related situations viewed these stressors as only a small setback on their path toward goals. Sport-specific hope may have acted similarly. Hopeful athletes are skilled at devising multiple pathways toward their goals (Feldman et al., 2009; Snyder, 1991) and less prone to burnout when their goals are thwarted (Gustafsson et al., 2010). These athletes may have also been skilled at devising multiple ways of coping with daily stressors – flexibly switching to other strategies when their initial goal of obtaining support was thwarted.

While trait sport self-confidence was generally a weak predictor of daily

regulatory strategies, emotions, and sport performance, higher sport self-confidence did enhance the effectiveness of daily acceptance as a strategy for regulating (i.e., increasing) positive emotions. Confident athletes may be better able to accept negative events, particularly mistakes or setbacks in their sport, if they believe that these events are not reflections of their overall ability or harbingers of failure. Indeed, qualitative data suggest that sport confidence is associated with (less) fear of failure (Sagar, Lavallee, & Spray, 2009). While we assessed sport- and non-sport related events, future research should explore associations between sport self-confidence and acceptance of sport-related stressors specifically.

Aside from these benefits, sport self-confidence did not predict greater performance rebound following poor practice performance, but SC, grit, and sport-specific hope did. While research suggests that self-confidence/self-efficacy are contingent upon external factors, such as past performances or verbal encouragement from others (Feltz, 2007), our study is the first to demonstrate that higher trait self-confidence in sports does not boost athletes' perceived performance on days following poor performances. Theory and research suggest that SC, in turn, is a more stable, adaptive stance toward the self that is not contingent upon the same external factors as self-confidence or related constructs (e.g., Neff & Vonk, 2009). Our results support the benefits of high SC versus self-confidence for sport performance. Following poor performances, self-compassionate athletes may be more likely to mindfully take stock of what went wrong, without getting wrapped up in self-defeating thoughts and behaviors, take responsibility for their actions, and move forward without feeling alienated in their

69

failure.

While SC is not typically associated with performance enhancement, our study suggests that the effects of SC on performance are similar to those of grit, a known predictor of performance (e.g., Credé, Tynan, & Harms, 2017). Building off existing theory and research, our findings suggest that SC and grit are particularly helpful for performance in the wake of failure, perhaps by preventing athletes from spiraling into doubt or self-hatred (SC) or giving up (grit). Yet another trait that appears to facilitate performance rebound is hope. While previous research suggests hope predicts sports performance (Curry et al., 1997), our study is the first to find that hope is particularly helpful following poor performances. While some athletes lose faith in their abilities after performance mishaps, hopeful athletes either stay the course or forge new pathways toward their goals.

While high sport-specific hope predicted performance improvements following especially poor performances, hope had a near-zero association with daily performance when athletes performed exceptionally well during the previous day's practice. This makes sense, since hope is perhaps less essential when things are going well. However, the same was not true for other traits; SC and grit predicted *worse* subjective sport performance on days following especially strong performances (Table 6, Figure 2). In these cases, athletes' subjective practice performance not only regressed back to their mean but was lower than their two-week average. These effects were not significant (likely due to sample size and missing data) and should not be overinterpreted. Still, it is interesting to consider whether certain adaptive goal-orientations, like grit, lead to

70

performance declines (beyond regression to the mean) after meeting or exceeding

performance goals. Research suggests that "coasting," or letting effort/commitment slide,

is natural after or shortly before goal achievement (Carver & Scheier, 1990), and our

measure of subjective sport performance asked participants to rank their performance in

relation to their goals (e.g., falling short of their goals, achieving them, or exceeding

them). Future research with larger samples of continuous daily data is needed to

understand the effects of hope, grit, and similar traits on persistence versus coasting

following goal achievement.

Limitations and future directions

While our study contributes novel findings to the literature, there are several

limitations. First, with 67 participants, we had limited power to detect smaller effects.

While we collected a total of 836 daily observations, we were unable to use all of them

due to missing data at level 2. This was particularly problematic when examining cross-

level interaction effects, as with Hypothesis 3. Subjective practice performance data at

level 1 were also naturally missing since athletes did not practice every single day during

the two-week assessment period. It is possible that our small sample size impacted our

findings. Consistent with previous theory, perhaps SC predicts a wider range of

regulatory strategies (e.g., greater acceptance; Neff, 2003a) and modulates the

effectiveness of these strategies (e.g., more effective cognitive reappraisal; Diedrich et

al., 2016), but our study was underpowered to detect these effects. Alternatively, these

constructs have been explored predominantly among clinical populations and rarely

among athletes. Further research is needed to understand whether college, professional,

71

and elite athletes gravitate toward different regulatory strategies or use certain strategies more effectively than others compared to non-athletes.

Collecting intensive longitudinal data from college athletes is challenging, particularly in the middle of the competitive season. Despite creating incentives and providing flexible time windows for survey completion (e.g., athletes earned more money as they progressed further beyond the 7-day mark; athletes could complete nightly surveys until early in the morning the next day), the fact remains that college athletes are often overscheduled, exhausted, and understandably reluctant to complete daily surveys, even via their phones. Future researchers conducting experience sampling studies with college athletes may consider more advanced mobile sensing techniques for passive data collection (e.g., using smart watches to collect physiological data on mood, sleep, and physiological arousal/exertion) insofar as wearable devices do not impede performance.

Beyond sample size, the demographic make-up of our sample (89% female, 91.1% white) limits the generalizability of our findings to the full, diverse spectrum of college athletes. However, it is notable that white women are similarly overrepresented in prominent studies of SC among college athletes (e.g., Ferguson et al., 2014: 83 women, 92.77% white; Mosewich et al., 2013: 29 women, 92% white; Reis et al., 2015: 103 women, 93.1% white). This may be due to earlier research suggesting SC is lower on average among women (e.g., Neff, 2003), though a more recent meta-analysis suggests these effect sizes are mostly small (e.g., Yarnell et al., 2015). Other research suggests that SC is lower among people who more strongly conform to masculine gender roles (Reilly, Rochlen, & Awad, 2014). Indeed, men are often not socialized to sooth or comfort

themselves when faced with inadequacy or failure. Researchers should strive to selectively recruit more male athletes into research studies on self-compassion, who likely subscribe to traditional gender roles more so than male non-athletes.

Racial disparities between study samples and the true racial make-up of NCAA institutions is concerning as well, and may be due to a variety of reasons, including selection biases (e.g., white female athletes are, for whatever reason, more willing to participate in research studies than female athletes of color). To obtain more representative samples and more generalizable findings, researchers may benefit from collecting data similar to ours in other countries for cross-national comparisons. Data collected from historically black colleges and universities (HBCUs) would also help address a concerning lack of data on black athletes in psychological research.

The generalizability of our findings are limited by our measurement approach. We chose to assess athletes' subjective rather than objective sport performance for three reasons. First, we believe subjective performance is particularly relevant when exploring athlete's emotions and well-being. Athletes' feelings about two objectively similar performances (e.g., same number of points scored, same time in a 3k time trial) may differ based on other factors (how they performed relative to their teammates or competitors). Subjective performance ratings capturing how athletes performed relative to their goals, as done in our study, may account for some of these variables when relevant (e.g., a 2nd string player whose goal is to perform better than their 1st string counterpart during practice). Second, while some teams keep detailed records of athletes' practice performance (points, assist, times, etc.), this may vary by team/coach and the

nature of a given practice. We measured subjective performance to ensure valid data at each practice. Third, with athletes from a range of different individual and team sports in our sample, there is no accepted method for standardizing objective performance metrics for cross-sport comparisons. Overall, subjective performance data has several advantages, but future replications would benefit from using subjective performance ratings from coaches as well.

Limitations with our cognitive reappraisal measure are also noteworthy. Items were taken from a validated daily measure (see Aldridge-Gerry et al., 2011), but this measure captured "positive" cognitive reappraisal (*"I tried to think about or notice only the good things in life," "I reminded myself that things could be worse"*) rather than general cognitive reappraisal (e.g., changing one's thinking about a situation more generally – perhaps more positively, but also more rationally). Still, while the cognitive behavioral therapy tradition emphasizes rational thinking, the general population may practice reappraisal differently, perhaps valuing positive over rational thinking. Using a succinct measure of daily emotion regulation was crucial for minimizing participant burnout, as we wished to measure a wide range of strategies each day. However, future studies focused on reappraisal or a smaller range of strategies would benefit from adopting measures with more items and stronger content validity.

Conclusions

Despite these limitations, our study makes meaningful contributions to the sport psychology literature – providing a rare view into the daily lives of college athletes over a two-week span during their competitive seasons. While many studies of SC and emotion

regulation among athletes use qualitative interviews, cross-sectional methods, or sport-specific measures, we adapted well-validated measures from the general psychological literature to the daily level and used advanced statistical methods to enhance validity. In contrast to existing studies, we tested the specificity of SC's effects by evaluating the role of similar traits, both general and sport related. Findings suggest that SC and sport-specific hope influence daily emotion regulation strategies in response to negative and positive events. Social support seeking was an ineffective regulatory strategy on average – leading to higher daily negative emotions, but higher levels of SC, grit, and sport-specific hope (but not sport self-confidence) mitigated this association. SC acts similarly to grit and hope in enhancing subjective practice performance following poor performances while confidence had no effect. Rather than focusing on confidence, coaches, trainers, and sport psychology consultants should focus on enhancing SC, which may have overlapping psychological and performance benefits with grit and hope.

Tables and Figures

Table 8.

Between- and within-person correlations and descriptive statistics.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Trait Measures															
1. Self-compassion	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2. Sport self-confidence	.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3. Grit	.25	.31*	--	--	--	--	--	--	--	--	--	--	--	--	--
4. Sport goal-specific hope	.56*	.39*	.50*	--	--	--	--	--	--	--	--	--	--	--	--
Daily Measures															
5. Negative Event Intensity	-.15	.03	-.13	-.14	--	.15*	.02	-.09*	.33*	.39*	.13*	-.10*	-.14*	-.31*	.45*
6. Problem-Solving	.13	-.15	-.06	.16	.30*	--	.20*	.02	.14*	.12*	.07*	.02	.06	.05	.03
7. Cognitive Reappraisal	.31*	-.04	.02	.35*	.06	.57*	--	.28*	.09*	.15*	.14*	.12*	.11*	.19*	-.06
8. Acceptance	-.07	-.15	-.11	.11	.11	.46*	.36*	--	.01	.07	.04	.08*	.08*	.12*	-.12*
9. Social Support	-.18	-.07	-.12	-.03	.44*	.50*	.46*	.39*	--	.25*	.17*	-.03	.07	-.14*	.33*
10. Cognitive Avoidance	-.07	-.19	-.18	.00	.51*	.53*	.51*	.58*	.58*	--	.39*	.07*	.00	-.17*	.29*
11. Behavioral Avoidance	.07	-.04	-.20	.07	.29*	.54*	.59*	.37*	.67*	.69*	--	.01	.03	-.07*	.19*
12. Positive Event Intensity	.07	.14	.19	.24	.35*	.41*	.33*	.24	.22	.23	.23	--	.44*	.30*	-.17*
13. Savoring Positive Event	.18	.10	.05	.40*	.09	.57*	.71*	.34*	.55*	.45*	.55	.55*	--	.33*	-.16*
14. Positive Emotions	.44*	.27*	.40*	.54*	-.18	.37*	.53*	.13	.16	.04	.25	.55*	.65*	--	-.49*
15. Negative Emotions	-.34*	-.24	-.28*	-.29*	.57*	.06	-.08	-.04	.33*	.43*	.19	-.11	-.04	-.35*	--
Descriptives															
Scale	1 – 5	1 – 5	1 – 8	1 – 9	1 – 5	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 5	1 – 5	1 – 5	1 – 5
M	2.91	3.54	6.61	6.08	3.07	2.31	2.06	2.68	1.56	2.35	1.66	4.03	2.17	3.00	1.82
SD	.70	.64	.99	1.26	1.16	.87	.90	1.00	.65	.87	.76	.93	.85	1.02	.98
ICC	1.00	1.00	1.00	1.00	.30	.30	.47	.27	.23	.33	.38	.27	.41	.48	.37

Table 9.

Multilevel regression results with self-compassion and hope predicting daily cognitive reappraisal (controlling for negative event intensity) and daily savoring of positive events (controlling for positive event intensity).

Outcome:	Cog. Reappraisal		Savoring	
Predictors:	*b*	*t*	*b*	*t*
Positive Event Intensity	--	--	.39*	11.84
Negative Event Intensity	-.02	-.78	--	--
Self-Compassion	**.28***	2.27	.13	1.16
Predictors:	*b*	*t*	*b*	*t*
Positive Event Intensity	--	--	.39*	11.84
Negative Event Intensity	-.02	-.78	--	--
Hope	**.23***	2.80	**.22***	3.11

Note: *p*<.05. Significant effects are bolded.

Table 10.

Interactions between traits and daily regulatory strategies (acceptance and social support seeking) predicting daily emotions, controlling for daily negative event intensity.

Outcome:	Positive Emotions		Negative Emotions	
Predictors:	*b*	*t*	*b*	*t*
Negative Event Intensity	--	--	.29*	8.82
Social Support Seeking	--	--	.31*	5.84
Self-Compassion	--	--	-.24*	-2.58
Acceptance x *SC*	--	--	-.23*	-3.45
Predictors:	*b*	*t*	*b*	*t*
Negative Event Intensity	--	--	.29*	8.88
Social Support Seeking	--	--	.32*	6.06
Grit	--	--	-.18*	-1.80
Social Support Seeking x *Grit*	--	--	-.21*	-2.75
Predictors:	*b*	*t*	*b*	*t*
Negative Event Intensity	--	--	.28*	8.70
Social Support Seeking	--	--	.33*	6.33
Hope	--	--	-.13	-1.95
Social Support Seeking x *Hope*	--	--	-.18*	-3.68
Predictors:	*b*	*t*	*b*	*t*
Negative Event Intensity	-.24*	-7.62	--	--
Acceptance	.07	1.82	--	--
Confidence	.14*	2.12	--	--
Acceptance x *Confidence*	.07*	2.40	--	--

Note: *p<.05. "--" = Interaction was not significant.

Table 11.

*Simple slopes for the interactions between traits and daily regulatory strategies
(acceptance and social support seeking) predicting daily emotions, controlling for
daily negative event intensity.*

Outcome:	Positive Emotions		Negative Emotions	
Predictor:				
Levels of Moderator	*b*	*t*	*b*	*t*
Social Support Seeking				
Levels of Self-Compassion				
-1 *SD*	--	--	.45*	6.38
M	--	--	.29*	5.41
+1 *SD*	--	--	.12	1.69
Social Support Seeking				
Levels of Grit				
-1 *SD*	--	--	.53*	5.94
M	--	--	.32*	6.06
+1 *SD*	--	--	.11	1.22
Social Support Seeking				
Levels of Hope				
-1 *SD*	--	--	.55*	6.90
M	--	--	.33*	6.33
+1 *SD*	--	--	.11	1.40
Acceptance				
Levels of Sport Self-Confidence				
-1 *SD*	.02	.56	--	--
M	.07	1.82	--	--
+1 *SD*	.11*	2.61	--	--

Note: *p<.05. Neg. Event Intensity = The intensity of negative events. "--" =
Interaction was not significant, so simple slopes were not calculated.

Table 12.

*Multilevel regression models with trait self-compassion, grit, sport-specific
hope, and sport self-confidence predicting daily subjective practice
performance moderated by subjective practice performance from the
previous day (lagged).*

	Outcome:	Subj. Practice Perf.	
Predictors:		*b*	*t*
Self-Compassion		.13	.98
Subjective Practice Perf. (lagged)		-.02	-.20
SC x Subjective Practice Perf. (lagged)		**-.33***	-2.74
Predictors:		*b*	*t*
Grit		.16	1.23
Subjective Practice Perf. (lagged)		-.03	-.31
Grit x Subjective Practice Perf. (lagged)		**-.39***	-2.80
Predictors:		*b*	*t*
Hope		.16	1.90
Subjective Practice Perf. (lagged)		.06	.16
Hope x Subjective Practice Perf. (lagged)		**-.18**	-2.28
Predictors:		*b*	*t*
Confidence		.08	1.04
Subjective Practice Perf. (lagged)		.05	.49
Confidence x Subjective Practice Perf. (lagged)		-.04	-.43

*Note*s. *p < .05. Significant moderation effects are bolded.

Table 13.

Simple slopes for the interactions between traits and previous-day subjective practice performance (lagged) predicting daily subjective practice performance.

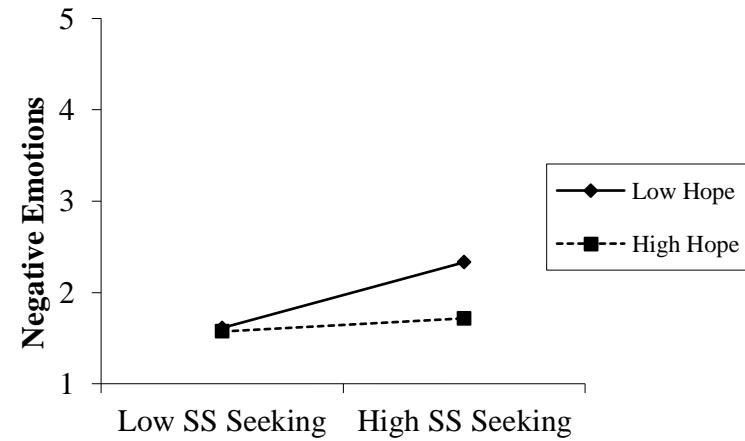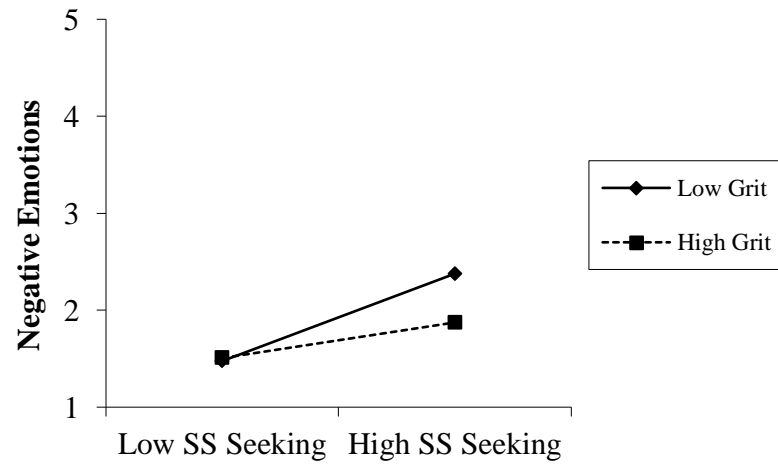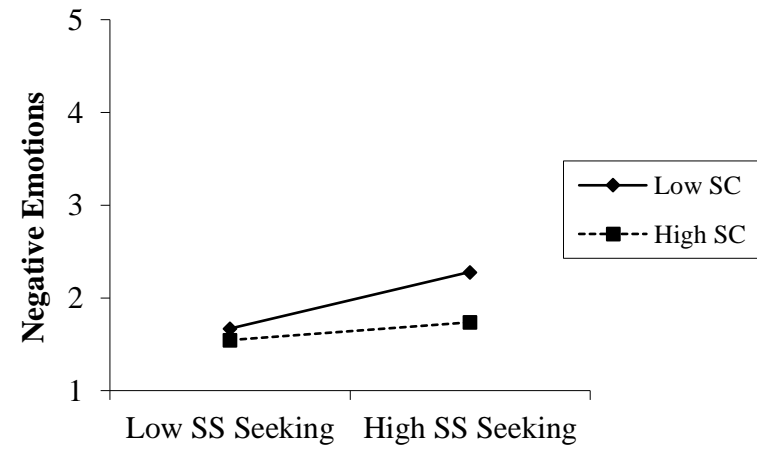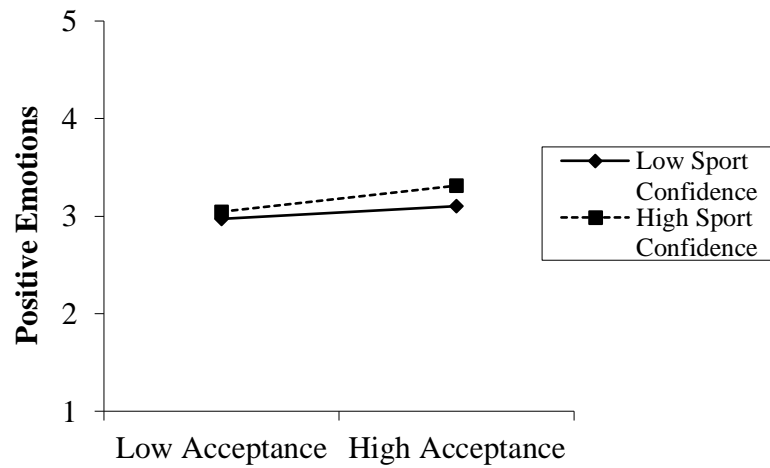|	Outcome:	Subj. Practice Perf.	
Predictor:			
Levels of Lagged Subj. Practice Perf.		*b*	*t*
Self-Compassion			
-1 *SD*		.48*	2.62
M		.13	.98
+1 *SD*		-.20	-1.11
Grit			
-1 *SD*		.54*	2.96
M		.16	1.22
+1 *SD*		-.22	-1.12
Hope			
-1 *SD*		.39*	2.95
M		.16	1.90
+1 *SD*		-.07	-.55

Note: *p<.05.

Figure 5. *Interactions between traits (self-compassion, sport self-confidence, sport-specific hope) and daily regulatory strategies (acceptance, social support seeking) predicting daily emotions.*
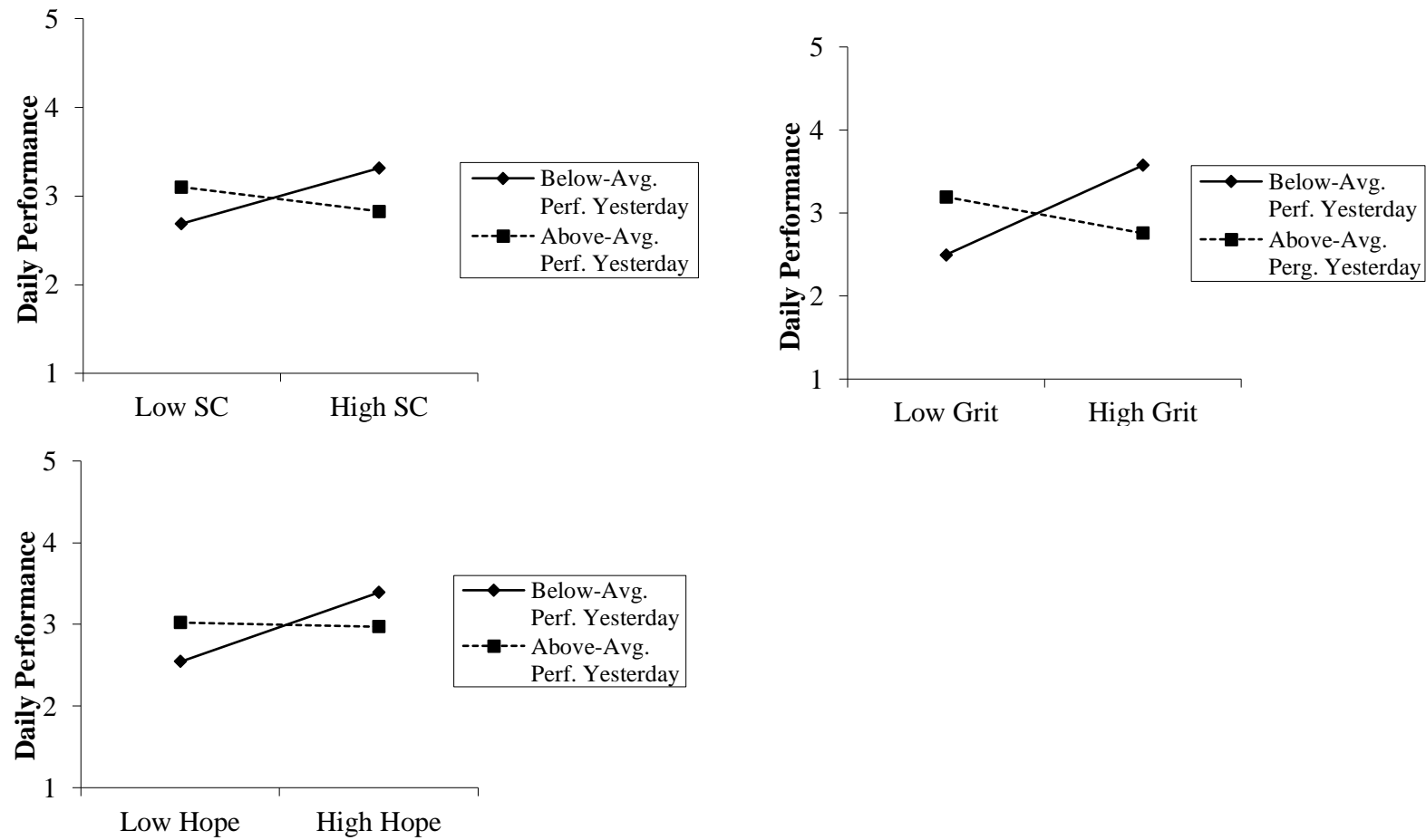
Figure 6. *Interactions between previous-day subjective practice performance and self-compassion, grit, and sport-specific hope predicting daily subjective practice performance.*

REFERENCES

Study 1

Aherne, C., Moran, A. P., & Lonsdale, C. (2011). The effect of mindfulness training on athletes' flow: An initial investigation. *The Sport Psychologist*, *25*, 177-189.

Aldridge-Gerry, A. A., Roesch, S. C., Villodas, F., McCabe, C., Leung, Q. K., & Da Costa, M. (2011). Daily stress and alcohol consumption: modeling between-person and within-person ethnic variation in coping behavior. *Journal of Studies on Alcohol and Drugs*, *72*, 125-134.

Baltzell, A., & Akhtar, V. L. (2014). Mindfulness meditation training for sport (MMTS) intervention: Impact of MMTS with division I female athletes. *The Journal of Happiness & Well-Being*, *2*, 160-173.

Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. Guilford Press.

Brennan, R. L. (1992). Generalizability theory. *Educational Measurement: Issues and Practice*, *11*, 27-34.

Brockman, R., Ciarrochi, J., Parker, P., & Kashdan, T. (2017). Emotion regulation strategies in daily life: mindfulness, cognitive reappraisal and emotion suppression. *Cognitive Behaviour Therapy*, *46*, 91-113.

Broughton, E., & Neyer, M. (2001). Advising and counseling student athletes. *New Directions for Student Services*, *93*, 47-53.

Bryant, F. B., & Veroff, J. (2007). *Savoring: A new model of positive experience*. Psychology Press.

Carver, C. S. (1997). You want to measure coping but your protocol'too long: Consider the brief cope. *International Journal of Behavioral Medicine*, *4*, 92-100.

Chaves, C., Lopez-Gomez, I., Hervas, G., & Vazquez, C. (2017). A comparative study on the efficacy of a positive psychology intervention and a cognitive behavioral therapy for clinical depression. *Cognitive Therapy and Research*, *41*, 417-433.

Cheng, S. T., Tsui, P. K., & Lam, J. H. (2015). Improving mental health in health care practitioners: Randomized controlled trial of a gratitude intervention. *Journal of Consulting and Clinical Psychology*, *83*, 177-186.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological bulletin*, *98*, 310-357.

Demaray, M. K., & Malecki, C. K. (2002). The relationship between perceived social support and maladjustment for students at risk. *Psychology in the Schools*, *39*, 305-316.

Dunn, B. D., Billotti, D., Murphy, V., & Dalgleish, T. (2009). The consequences of effortful emotion regulation when processing distressing material: A comparison of suppression and acceptance. *Behaviour Research and Therapy*, *47*, 761-773.

Eifert, G. H., & Heffner, M. (2003). The effects of acceptance versus control contexts on avoidance of panic-related symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, *34*, 293-312.

Evans, B. PACO Personal Analytics Companion. 2017.

Ford, B. Q., & Troy, A. S. (2019). Reappraisal reconsidered: A closer look at the costs of an acclaimed emotion-regulation strategy. *Current Directions in Psychological Science*, *28*, 195-203.

Frasure-Smith, N., Lespérance, F., Gravel, G., Masson, A., Juneau, M., Talajic, M., & Bourassa, M. G. (2000). Social support, depression, and mortality during the first year after myocardial infarction. *Circulation*, *101*, 1919-1924.

Frison, E., & Eggermont, S. (2015). The impact of daily stress on adolescents' depressed mood: The role of social support seeking through Facebook. *Computers in Human Behavior*, *44*, 315-325.

Gabana, N. T., Steinfeldt, J., Wong, Y. J., Chung, Y. B., & Svetina, D. (2019). Attitude of gratitude: Exploring the implementation of a gratitude intervention with college athletes. *Journal of Applied Sport Psychology*, *31*, 273-284.

Galli, N., & Gonzalez, S. P. (2015). Psychological resilience in sport: A review of the literature and implications for research and practice. *International Journal of Sport and Exercise Psychology*, *13*, 243-257.

Galli, N., & Vealey, R. S. (2008). "Bouncing back" from adversity: Athletes' experiences of resilience. *The Sport Psychologist*, *22*, 316-335.

Gardner, F. L., & Moore, Z. E. (2004). A mindfulness-acceptance-commitment-based

    approach to athletic performance enhancement: Theoretical

    considerations. *Behavior Therapy*, *35*, 707-723.

Gaudreau, P., & Blondin, J. P. (2004a). Different athletes cope differently during a sport

    competition: A cluster analysis of coping. *Personality and Individual*

    Differences, *36*, 1865-1877.

Gaudreau, P., & Blondin, J. P. (2004b). Differential Associations of Dispositional

    Optimism and Pessimism With Coping, Goal Attainment, and Emotional

    Adjustment During Sport Competition. *International Journal of Stress*

    Management, *11*, 245-269.

Gould, D., Finch, L. M., & Jackson, S. A. (1993). Coping strategies used by national

    champion figure skaters. *Research Quarterly for Exercise and Sport*, *64*, 453-468.

Gross, J. J. (2015). Emotion regulation: Current status and future

    prospects. *Psychological Inquiry*, *26*, 1-26.

Gross, J. J., & John, O. P. (2003). Individual Differences in Two Emotion Regulation

    Processes: Implications for Affect, Relationships, and Well-Being. *Journal of*

    Personality and Social Psychology, *85*, 348-362.

Gross, M., Moore, Z. E., Gardner, F. L., Wolanin, A. T., Pess, R., & Marks, D. R. (2018).

    An empirical examination comparing the mindfulness-acceptance-commitment

    approach and psychological skills training for the mental health and sport

    performance of female student athletes. *International Journal of Sport and*

    Exercise Psychology, *16*, 431-451.

Haase, L., May, A. C., Falahpour, M., Isakovic, S., Simmons, A. N., Hickman, S. D., ... & Paulus, M. P. (2015). A pilot study investigating changes in neural processing after mindfulness training in elite athletes. *Frontiers in Behavioral Neuroscience*, *9*, 1-12

Haga, S. M., Kraft, P., & Corby, E. K. (2009). Emotion regulation: Antecedents and well-being outcomes of cognitive reappraisal and expressive suppression in cross-cultural samples. *Journal of Happiness Studies*, *10*, 271-291.

Hanin, Y. L. (2007). Emotions and athletic performance: Individual zones of optimal functioning model.

Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Dovidio, J. (2009). How does stigma "get under the skin"? The mediating role of emotion regulation. *Psychological Science*, *20*, 1282-1289.

Hill, R. M., & Pettit, J. W. (2012). Suicidal ideation and sexual orientation in college students: The roles of perceived burdensomeness, thwarted belongingness, and perceived rejection due to sexual orientation. *Suicide and Life-Threatening Behavior*, *42*, 567-579.

Hill, R. M., Rooney, E. E., Mooney, M. A., & Kaplow, J. B. (2017). Links between social support, thwarted belongingness, and suicide ideation among lesbian, gay, and bisexual college students. *Journal of Family Strengths*, *17*, 6.

Ho, H. C., Yeung, D. Y., & Kwok, S. Y. (2014). Development and evaluation of the positive psychology intervention for older adults. *The Journal of Positive Psychology*, *9*, 187-197.

Holahan, C. J., Moos, R. H., Holahan, C. K., Brennan, P. L., & Schutte, K. K. (2005). Stress generation, avoidance coping, and depressive symptoms: a 10-year model. *Journal of Consulting and Clinical Psychology*, *73*, 658-666.

Holt, N. L. (2003). Coping in professional sport: A case study of an experienced cricket player. *Athletic Insight*, *5*, 1-11.

Holt, N. L., Berg, K. J., & Tamminen, K. A. (2007). Tales of the unexpected: Coping among female collegiate volleyball players. *Research Quarterly for Exercise and Sport*, *78*, 117-132.

Holt, N. L., & Hogg, J. M. (2002). Perceptions of stress and coping during preparations for the 1999 women's soccer world cup finals. *The Sport Psychologist*, *16*, 251-271.

Holt, N. L., & Mandigo, J. L. (2004). Coping with Performance Worries Among Youth Male Cricket Players. *Journal of Sport Behavior*, *27*, 39-57.

Hurley, D. B., & Kwon, P. (2013). Savoring helps most when you have little: Interaction between savoring the moment and uplifts on positive affect and satisfaction with life. *Journal of Happiness Studies*, *14*, 1261-1271.

Jamieson, J. P., Mendes, W. B., & Nock, M. K. (2013). Improving acute stress responses: The power of reappraisal. *Current Directions in Psychological Science*, *22*, 51-56.

Jones, M. V. (2012). Emotion regulation and performance. *The Oxford handbook of sport and performance psychology*, 154-172.

Jose, P. E., Lim, B. T., & Bryant, F. B. (2012). Does savoring increase happiness? A daily diary study. *The Journal of Positive Psychology*, *7*, 176-187.

Kashdan, T. B., Barrios, V., Forsyth, J. P., & Steger, M. F. (2006). Experiential

avoidance as a generalized psychological vulnerability: Comparisons with coping

and emotion regulation strategies. *Behaviour Research and Therapy*, *44*, 1301-

1320.

Kaufman, K. A., Glass, C. R., & Arnkoff, D. B. (2009). Evaluation of Mindful Sport

Performance Enhancement (MSPE): A new approach to promote flow in

athletes. *Journal of Clinical Sport Psychology*, *3*, 334-356.

Kaufman, K. A., Glass, C. R., & Pineau, T. R. (2018). *Mindful sport performance

enhancement: Mental training for athletes and coaches*. American Psychological

Association.

Kiken, L. G., Lundberg, K. B., & Fredrickson, B. L. (2017). Being present and enjoying

it: Dispositional mindfulness and savoring the moment are distinct, interactive

predictors of positive emotions and psychological health. *Mindfulness*, *8*, 1280-

1290.

Killen, A., & Macaskill, A. (2015). Using a gratitude intervention to enhance well-being

in older adults. *Journal of Happiness Studies*, *16*, 947-964

Kimball, A., & Freysinger, V. J. (2003). Leisure, stress, and coping: The sport

participation of collegiate student-athletes. *Leisure Sciences*, *25*, 115-141.

Kuba, K., & Scheibe, S. (2017). Let it be and keep on going! Acceptance and daily

occupational well-being in relation to negative work events. *Journal of

Occupational Health Psychology*, *22*, 59-70.

Lane, A. M., Beedie, C. J., Devonport, T. J., & Stanley, D. M. (2011). Instrumental emotion regulation in sport: relationships between beliefs about emotion and emotion regulation strategies used by athletes. *Scandinavian Journal of Medicine & Science in Sports*, *21*, e445-e451.

Loudon, D. L., Stevens, R. E., Yow, D. A., Humphrey, J. H., & Bowden, W. W. (2013). *Stress in college athletics: Causes, consequences, coping*. Routledge.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*, 543-562.

Machell, K. A., Goodman, F. R., & Kashdan, T. B. (2015). Experiential avoidance and well-being: A daily diary analysis. *Cognition and Emotion*, *29*, 351-359.

Martin, L. J., Carron, A. V., & Burke, S. M. (2008). Team building interventions in sport: A meta-analysis.

Martinent, G., Ledos, S., Ferrand, C., Campo, M., & Nicolas, M. (2015). Athletes' regulation of emotions experienced during competition: A naturalistic video-assisted study. *Sport, Exercise, and Performance Psychology*, *4*, 188-207.

McMakin, D. L., Siegle, G. J., & Shirk, S. R. (2011). Positive Affect Stimulation and Sustainment (PASS) module for depressed mood: A preliminary investigation of treatment-related effects. *Cognitive Therapy and Research*, *35*, 217-226.

Meyer, P. S., Johnson, D. P., Parks, A., Iwanski, C., & Penn, D. L. (2012). Positive living: A pilot study of group positive psychotherapy for people with schizophrenia. *The Journal of Positive Psychology*, *7*, 239-248.

Min, J. A., Yu, J. J., Lee, C. U., & Chae, J. H. (2013). Cognitive emotion regulation
strategies contributing to resilience in patients with depression and/or anxiety
disorders. *Comprehensive Psychiatry*, *54*, 1190-1197.

Morgan, P. B., Fletcher, D., & Sarkar, M. (2013). Defining and characterizing team
resilience in elite sport. *Psychology of Sport and Exercise*, *14*, 549-559.

Nezlek, J. B. (2011). *Multilevel modeling for social and personality psychology*. SAGE
Publications Ltd.

Nezlek, J. B. (2012). Multilevel modeling analyses of diary-style data. *Handbook of
Research Methods for Studying Daily Life*, 357-383.

Nezlek, J. B., & Kuppens, P. (2008). Regulating positive and negative emotions in daily
life. *Journal of personality*, *76*, 561-580.

Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion
regulation strategies and their relationship to depressive symptoms. *Personality
and Individual Differences*, *51*, 704-708.

Nicholls, A. R., Holt, N. L., & Polman, R. C. (2005). A phenomenological analysis of
coping effectiveness in golf. *The Sport Psychologist*, *19*, 111-130.

Nicholls, A. R., Holt, N. L., Polman, R. C., & Bloomfield, J. (2006). Stressors, coping,
and coping effectiveness among professional rugby union players. *The Sport
Psychologist*, *20*, 314-329.

Nicholls, A. R., Jones, C. R., Polman, R. C. J., & Borkoles, E. (2009). Acute sport-related
stressors, coping, and emotion among professional rugby union players during

training and matches. *Scandinavian Journal of Medicine & Science in Sports*, *19*, 113-120.

Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences*, *25*, 11-31.

Nicholls, A. R., Polman, R., Levy, A. R., Taylor, J., & Cobley, S. (2007). Stressors, coping, and coping effectiveness: Gender, type of sport, and skill differences. *Journal of Sports Sciences*, *25*, 1521-1530.

Otto, A. K., Szczesny, E. C., Soriano, E. C., Laurenceau, J. P., & Siegel, S. D. (2016). Effects of a randomized gratitude intervention on death-related fear of recurrence in breast cancer survivors. *Health Psychology*, *35*, 1320-1328.

Park, J. K. (2000). Coping strategies used by Korean national athletes. *The Sport Psychologist*, *14*, 63-80.

Park, C. L., Armeli, S., & Tennen, H. (2004). The daily stress and coping process and alcohol use among college students. *Journal of Studies on Alcohol*, *65*, 126-135.

Poczwardowski, A., & Conroy, D. E. (2002). Coping responses to failure and success among elite athletes and performing artists. *Journal of Applied Sport Psychology*, *14*, 313-329.

Reeves, C. W., Nicholls, A. R., & McKenna, J. (2011). Longitudinal analyses of stressors, perceived control, coping, and coping effectiveness among early and middle adolescent soccer players. *International Journal of Sport Psychology*, *42*, 186-203.

Rose, A. J., Carlson, W., & Waller, E. M. (2007). Prospective associations of co-rumination with friendship and emotional adjustment: Considering the socioemotional trade-offs of co-rumination. *Developmental Psychology*, *43*, 1019-1031.

Röthlin, P., Birrer, D., Horvath, S., & Grosse, M. H. (2016). Psychological skills training and a mindfulness-based intervention to enhance functional athletic performance: design of a randomized controlled trial using ambulatory assessment. *BMC Psychology*, *4*, 39-39.

Sahdra, B. K., Brockman, R., Hayes, S. C., Hofmann, S. G., Kashdan, T. B., & Ciarrochi, J. (in press). Individual differences in the co-use of reappraisal and emotion suppression in daily life: Implications for daily positive and negative affect.

Sandler, I. N., Tein, J. Y., Mehta, P., Wolchik, S., & Ayers, T. (2000). Coping efficacy and psychological problems of children of divorce. *Child Development*, *71*, 1099-1118.

Sarkar, M., & Fletcher, D. (2014). Psychological resilience in sport performers: a review of stressors and protective factors. *Journal of Sports Sciences*, *32*, 1419-1434.

Seligman, M. E., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education*, *35*, 293-311.

Seligman, M. E., Rashid, T., & Parks, A. C. Peterson, C., & Seligman, M. E. (2004). Character strengths and virtues: A handbook and classification. Washington, DC:

American Psychological Association and Oxford University Press. *American Psychologist*, *51*, 1072-1079.

Settles, I. H., Sellers, R. M., & Damas Jr, A. (2002). One role or two?: The function of psychological separation in role conflict. *Journal of Applied Psychology*, *87*, 574-582.

Shrout, P. E., & Lane, S. P. (2012). Psychometrics. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of Research Methods for Studying Daily Life* (p. 302–320). The Guilford Press.

Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, *65*, 467-487.

Smith, J. L., & Hanni, A. A. (2019). Effects of a savoring intervention on resilience and well-being of older adults. *Journal of Applied Gerontology*, *38*, 137-152.

Stone, A., & Neale, J. (1984). New measure of daily coping: Development and preliminary results. *Journal of Personality and Social Psychology*, *46*, 892-906.

Sytine, A. I., Britt, T. W., Sawhney, G., Wilson, C. A., & Keith, M. (2019). Savoring as a moderator of the daily demands and psychological capital relationship: A daily diary study. *The Journal of Positive Psychology*, *14*, 641-648.

Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex differences in coping behavior: A meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, *6*, 2-30.

Thoits, P. A. (1991). Gender differences in coping with emotional distress. In *The social context of coping* (pp. 107-138). Springer, Boston, MA.

Turner, R. J. (1981). Social support as a contingency in psychological well-being. *Journal of Health and Social Behavior*, 357-367.

Troy, A. S., & Mauss, I. B. (2011). Resilience in the face of stress: Emotion regulation as a protective factor. *Resilience and mental health: Challenges across the lifespan*, *1*, 30-44.

Troy, A. S., Shallcross, A. J., & Mauss, I. B. (2013). A person-by-situation approach to emotion regulation: Cognitive reappraisal can either help or hurt, depending on the context. *Psychological Science*, *24*, 2505-2514.

Troy, A. S., Wilhelm, F. H., Shallcross, A. J., & Mauss, I. B. (2010). Seeing the silver lining: Cognitive reappraisal ability moderates the relationship between stress and depressive symptoms. *Emotion*, *10*, 783-795.

Tugade, M. M., & Fredrickson, B. L. (2007). Regulation of positive emotions: Emotion regulation strategies that promote resilience. *Journal of Happiness Studies*, *8*, 311-333.

Tugade, M. M., Fredrickson, B. L., & Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health. *Journal of Personality*, *72*, 1161-1190.

Vilardaga, R., Hayes, S. C., Atkins, D. C., Bresee, C., & Kambiz, A. (2013). Comparing experiential acceptance and cognitive reappraisal as predictors of functional

outcome in individuals with serious mental illness. *Behaviour Research and Therapy*, *51*, 425-433.

Watson, D., & Clark, L. A. (1999). The PANAS-X: Manual for the positive and negative affect schedule-expanded form.

Watson, J. C., & Kissinger, D. B. (2007). Athletic participation and wellness: Implications for counseling college student-athletes. *Journal of College Counseling*, *10*, 153-162.

Yukelson, D. (1997). Principles of effective team building interventions in sport: A direct services approach at Penn State University. *Journal of Applied Sport Psychology*, *9*, 73-96.

Study 2

Aldridge-Gerry, A. A., Roesch, S. C., Villodas, F., McCabe, C., Leung, Q. K., & Da Costa, M. (2011). Daily stress and alcohol consumption: modeling between-person and within-person ethnic variation in coping behavior. *Journal of Studies on Alcohol and Drugs*, *72*, 125-134.

Alizadeh, S., Khanahmadi, S., Vedadhir, A., & Barjasteh, S. (2018). The relationship between resilience with self-compassion, social support and sense of belonging in women with breast cancer. *Asian Pacific Journal of Cancer Prevention: APJCP*, *19*, 2469-2474.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191-215.

Barlow, M. R., Turow, R. E. G., & Gerhart, J. (2017). Trauma appraisals, emotion

  regulation difficulties, and self-compassion predict posttraumatic stress symptoms

  following childhood abuse. *Child Abuse & Neglect*, *65*, 37-47.

Barnard, L. K., & Curry, J. F. (2011). Self-compassion: Conceptualizations, correlates, &

  interventions. *Review of General Psychology*, *15*, 289-303.

Bolger, N., & Laurenceau, J. P. (2013). *Intensive longitudinal methods: An introduction*

  to diary and experience sampling research. Guilford Press.

Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013).

  Positive psychology interventions: a meta-analysis of randomized controlled

  studies. *BMC Public Health*, *13*, 119-138.

Brennan, R. L. (1992). Generalizability theory. *Educational Measurement: Issues and*

  Practice, *11*(4), 27-34.

Bryant, F. (2003). Savoring Beliefs Inventory (SBI): A scale for measuring beliefs about

  savouring. *Journal of Mental Health*, *12*, 175-196.

Bryant, F. B., Chadwick, E. D., & Kluwe, K. (2011). Understanding the processes that

  regulate positive emotional experience: Unsolved problems and future directions

  for theory and research on savoring. *International Journal of Wellbeing*, *1*. 107-

  126.

Bryant, F. B., & Veroff, J. (2007). *Savoring: A new model of positive experience*.

  Psychology Press.

Bühlmayer, L., Birrer, D., Röthlin, P., Faude, O., & Donath, L. (2017). Effects of

    mindfulness practice on performance-relevant parameters and performance

    outcomes in sports: A meta-analytical review. *Sports Medicine*, *47*, 2309-2321.

Carver, C. S. (1997). You want to measure coping but your protocol'too long: Consider

    the brief cope. *International Journal of Behavioral Medicine*, *4*, 92-100.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative

    affect: a control-process view. *Psychological Review*, *97*, 19-35.

Casellas-Grau, A., Font, A., & Vives, J. (2014). Positive psychology interventions in

    breast cancer. A systematic review. *Psycho-Oncology*, *23*, 9-19.

Connor-Smith, J. K., Compas, B. E., Wadsworth, M. E., Thomsen, A. H., & Saltzman, H.

    (2000). Responses to stress in adolescence: measurement of coping and

    involuntary stress responses. *Journal of Consulting and Clinical Psychology*, *68*,

    976-992.

Costa, J., & Pinto-Gouveia, J. (2011). Acceptance of pain, self-compassion and

    psychopathology: Using the Chronic Pain Acceptance Questionnaire to identify

    patients' subgroups. *Clinical Psychology & Psychotherapy*, *18*, 292-302.

Costa, J., & Pinto-Gouveia, J. (2013). Experiential avoidance and self-compassion in

    chronic pain. *Journal of Applied Social Psychology*, *43*, 1578-1591.

Credé, M., Tynan, M. C., & Harms, P. D. (2017). Much ado about grit: A meta-analytic

    synthesis of the grit literature. *Journal of Personality and Social Psychology*, *113*,

    492-511.

Cresswell, S., & Hodge, K. (2004). Coping skills: Role of trait sport confidence and trait anxiety. *Perceptual and Motor Skills*, *98*, 433-438.

Curry, L. A., Snyder, C. R., Cook, D. L., Ruby, B. C., & Rehm, M. (1997). Role of hope in academic and sport achievement. *Journal of Personality and Social Psychology*, *73*, 1257-1267.

Demaray, M. K., & Malecki, C. K. (2002). The relationship between perceived social support and maladjustment for students at risk. *Psychology in the Schools*, *39*, 305-316.

Diedrich, A., Hofmann, S. G., Cuijpers, P., & Berking, M. (2016). Self-compassion enhances the efficacy of explicit cognitive reappraisal as an emotion regulation strategy in individuals with major depressive disorder. *Behaviour Research and Therapy*, *82*, 1-10.

Donaldson, S. I., Dollwet, M., & Rao, M. A. (2015). Happiness, excellence, and optimal human fu nctioning revisited: Examining the peer-reviewed literature linked to positive psychology. *The Journal of Positive Psychology*, *10*, 185-195.

Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (GRIT–S). *Journal of Personality Assessment*, *91*, 166-174.

Eskreis-Winkler, L., Duckworth, A. L., Shulman, E. P., & Beal, S. (2014). The grit effect: Predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, *5*, 36-48.

Evans, B. (2019). PACO Personal Analytics Companion. 2017.

Feldman, D. B., Rand, K. L., & Kahle-Wrobleski, K. (2009). Hope and goal attainment: Testing a basic prediction of hope theory. *Journal of Social and Clinical Psychology*, *28*, 479-497.

Feltz, D. L. (2007). Self-confidence and sports performance. *Studies*, *33*, 50-66.

Feltz, D. L., Short, S. E., & Sullivan, P. J. (2008). *Self-efficacy in sport*. Human Kinetics.

Ferguson, L. J., Kowalski, K. C., Mack, D. E., & Sabiston, C. M. (2014). Exploring self-compassion and eudaimonic well-being in young women athletes. *Journal of Sport and Exercise Psychology*, *36*, 203-216.

Frasure-Smith, N., Lespérance, F., Gravel, G., Masson, A., Juneau, M., Talajic, M., & Bourassa, M. G. (2000). Social support, depression, and mortality during the first year after myocardial infarction. *Circulation*, *101*, 1919-1924.

Frison, E., & Eggermont, S. (2015). The impact of daily stress on adolescents' depressed mood: The role of social support seeking through Facebook. *Computers in Human Behavior*, *44*, 315-325.

Gardner, F. L., & Moore, Z. E. (2007). *The psychology of enhancing human performance: The mindfulness-acceptance-commitment (MAC) approach*. Springer Publishing Company.

Gayton, W. F., & Nickless, C. J. (1987). An investigation of the validity of the trait and state sport-confidence inventories in predicting marathon performance. *Perceptual and Motor Skills*, *65*, 481-482.

Gerber, A. J., Posner, J., Gorman, D., Colibazzi, T., Yu, S., Wang, Z., ... & Peterson, B. S. (2008). An affective circumplex model of neural systems subserving valence,

arousal, and cognitive overlay during the appraisal of emotional

faces. *Neuropsychologia*, *46*, 2129-2139.

Germer, C. K., & Neff, K. D. (2013). Self-compassion in clinical practice. *Journal of*

Clinical Psychology, *69*, 856-867.

Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric*

Treatment, *15*, 199-208.

Gilbert, P., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion:

Development of three self-report measures. *Psychology and Psychotherapy:*

Theory, research and practice, *84*, 239-255.

Gilchrist, J. D., Fong, A. J., Herbison, J. D., & Sabiston, C. M. (2018). Feelings of pride

are associated with grit in student-athletes and recreational runners. *Psychology of*

Sport and Exercise, *36*, 1-7.

Gillanders, D. T., Sinclair, A. K., MacLean, M., & Jardine, K. (2015). Illness cognitions,

cognitive fusion, avoidance and self-compassion as predictors of distress and

quality of life in a heterogeneous sample of adults, after cancer. *Journal of*

Contextual Behavioral Science, *4*, 300-311.

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their

development in Olympic champions. *Journal of Applied Sport Psychology*, *14*,

172-204.

Grove, J. R., & Heard, N. P. (1997). Optimism and sport confidence as correlates of

slump-related coping among athletes. *The Sport Psychologist*, *11*, 400-410.

Gustafsson, H., Hassmén, P., & Podlog, L. (2010). Exploring the relationship between hope and burnout in competitive sport. *Journal of Sports Sciences*, *28*, 1495-1504.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2011). *Acceptance and commitment therapy: The process and practice of mindful change*. Guilford Press.

Jazaieri, H., Jinpa, G. T., McGonigal, K., Rosenberg, E. L., Finkelstein, J., Simon-Thomas, E., ... & Goldin, P. R. (2013). Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. *Journal of Happiness Studies*, *14*, 1113-1126.

Jose, P. E., Lim, B. T., & Bryant, F. B. (2012). Does savoring increase happiness? A daily diary study. *The Journal of Positive Psychology*, *7*, 176-187.

Kashdan, T. B., Disabato, D. J., Goodman, F. R., Doorley, J. D., McKnight, P. E. Understanding psychological flexibility: A multi-method exploration of pursuing valued goals despite the presence of pain. *Psychological Assessment* (in press).

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, *30*, 865-878.

Kiken, L. G., Lundberg, K. B., & Fredrickson, B. L. (2017). Being present and enjoying it: Dispositional mindfulness and savoring the moment are distinct, interactive predictors of positive emotions and psychological health. *Mindfulness*, *8*, 1280-1290.

Killham, M. E., Mosewich, A. D., Mack, D. E., Gunnell, K. E., & Ferguson, L. J. (2018). Women athletes' self-compassion, self-criticism, and perceived sport performance. *Sport, Exercise, and Performance Psychology*, *7*, 297-307.

Kivity, Y., Tamir, M., & Huppert, J. D. (2016). Self-acceptance of negative emotions: The positive relationship with effective cognitive reappraisal. *International Journal of Cognitive Therapy*, *9*, 279-294.

Krieger, T., Altenstein, D., Baettig, I., Doerig, N., & Holtforth, M. G. (2013). Self-compassion in depression: Associations with depressive symptoms, rumination, and avoidance in depressed outpatients. *Behavior Therapy*, *44*, 501-513.

Larkin, P., O'Connor, D., & Williams, A. M. (2016). Does grit influence sport-specific engagement and perceptual-cognitive expertise in elite youth soccer?. *Journal of Applied Sport Psychology*, *28*, 129-138.

Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly. *Journal of Personality and Social Psychology*, *92*, 887-904.

Martin, J. J., & Gill, D. L. (1991). The relationships among competitive orientation, sport-confidence, self-efficacy, anxiety, and performance. *Journal of Sport and Exercise Psychology*, *13*, 149-159.

McCullough, M. E. (2002). Savoring life, past and present: Explaining what hope and gratitude share in common. *Psychological Inquiry*, *13*, 302-304.

Meyer, B. (2001). Coping with severe mental illness: Relations of the Brief COPE with symptoms, functioning, and well-being. *Journal of Psychopathology and Behavioral Assessment*, *23*, 265-277.

Moles, T. A., Auerbach, A. D., & Petrie, T. A. (2017). Grit happens: Moderating effects
on motivational feedback and sport performance. *Journal of Applied Sport Psychology*, *29*, 418-433.

Mosewich, A. D., Crocker, P. R., Kowalski, K. C., & DeLongis, A. (2013). Applying
self-compassion in sport: An intervention with women athletes. *Journal of Sport and Exercise Psychology*, *35*, 514-524.

Mosewich, A. D., Kowalski, K. C., Sabiston, C. M., Sedgwick, W. A., & Tracy, J. L.
(2011). Self-compassion: A potential resource for young women athletes. *Journal of Sport and Exercise Psychology*, *33*, 103-123.

Neff, K. (2003). Self-compassion: An alternative conceptualization of a healthy attitude
toward oneself. *Self and Identity*, *2*, 85-101.

Neff, K. D. (2003). The development and validation of a scale to measure self-
compassion. *Self and Identity*, *2*, 223-250.

Neff, K. (2004). Self-compassion and psychological well-being. *Constructivism in the human sciences*, *9*, 27-38.

Neff, K. D. (2011). Self-compassion, self-esteem, and well-being. *Social and Personality Psychology Compass*, *5*, 1-12.

Neff, K. D., & Dahm, K. A. (2015). Self-compassion: What it is, what it does, and how it
relates to mindfulness. In *Handbook of mindfulness and self-regulation* (pp. 121-137). Springer, New York, NY.

Neff, K. D., Hsieh, Y. P., & Dejitterat, K. (2005). Self-compassion, achievement goals,
and coping with academic failure. *Self and Identity*, *4*, 263-287.

Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive

    psychological functioning. *Journal of Research in Personality*, *41*, 139-154.

Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two

    different ways of relating to oneself. *Journal of Personality*, *77*, 23-50.

Nezlek, J. B. (2011). *Multilevel modeling for social and personality psychology*. SAGE

    Publications Ltd.

Nezlek, J. B. (2012). Multilevel modeling analyses of diary-style data. *Handbook of*

    Research Methods for Studying Daily Life, 357-383.

Noetel, M., Ciarrochi, J., Van Zanden, B., & Lonsdale, C. (2019). Mindfulness and

    acceptance approaches to sporting performance enhancement: A systematic

    review. *International Review of Sport and Exercise Psychology*, *12*, 139-175.

Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of

    stress: a test of the social support deterioration deterrence model. *Journal of*

    Personality and Social Psychology, *71*, 498-511.

Ollendick, T. H., Langley, A. K., Jones, R. T., & Kephart, C. (2001). Fear in children and

    adolescents: Relations with negative life events, attributional style, and avoidant

    coping. *The Journal of Child Psychology and Psychiatry and Allied*

    Disciplines, *42*, 1029-1034.

Petrocchi, N., Ottaviani, C., & Couyoumdjian, A. (2014). Dimensionality of self-

    compassion: translation and construct validation of the self-compassion scale in

    an Italian sample. *Journal of Mental Health*, *23*, 72-77.

Reilly, E. D., Rochlen, A. B., & Awad, G. H. (2014). Men's self-compassion and self-
esteem: the moderating roles of shame and masculine norm
adherence. *Psychology of Men & Masculinity*, *15*, 22-28.

Reis, N. A., Kowalski, K. C., Ferguson, L. J., Sabiston, C. M., Sedgwick, W. A., &
Crocker, P. R. (2015). Self-compassion and women athletes' responses to
emotionally difficult sport situations: An evaluation of a brief
induction. *Psychology of Sport and Exercise*, *16*, 18-25.

Rose, A. J. (2002). Co–rumination in the friendships of girls and boys. *Child
Development*, *73*, 1830-1843.

Neff, K. D., Long, P., Knox, M. C., Davidson, O., Kuchar, A., Costigan, A., ... &
Breines, J. G. (2018). The forest and the trees: Examining the association of self-
compassion and its positive and negative components with psychological
functioning. *Self and Identity*, *17*, 627-645.

Neff, K. D., Rude, S. S., & Kirkpatrick, K. L. (2007). An examination of self-compassion
in relation to positive psychological functioning and personality traits. *Journal of
Research in Personality*, *41*, 908-916.

Sagar, S. S., Lavallee, D., & Spray, C. M. (2009). Coping with the effects of fear of
failure: A preliminary investigation of young elite athletes. *Journal of Clinical
Sport Psychology*, *3*, 73-98.

Sandler, I. N., Tein, J. Y., Mehta, P., Wolchik, S., & Ayers, T. (2000). Coping efficacy
and psychological problems of children of divorce. *Child Development*, *71*, 1099-
1118.

Seligman, M. E., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education*, *35*, 293-311.

Sirois, F. M., Nauts, S., & Molnar, D. S. (2019). Self-compassion and bedtime procrastination: an emotion regulation perspective. *Mindfulness*, *10*, 434-445.

Shepherd, D. A., & Cardon, M. S. (2009). Negative emotional reactions to project failure and the self-compassion to learn from the experience. *Journal of Management Studies*, *46*, 923-949.

Shrout, P. E., & Lane, S. P. (2012). Psychometrics. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of Research Methods for Studying Daily Life* (p. 302–320). The Guilford Press.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., ... & Harney, P. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, *60*, 570-585.

Sutherland, L. M., Kowalski, K. C., Ferguson, L. J., Sabiston, C. M., Sedgwick, W. A., & Crocker, P. R. (2014). Narratives of young women athletes' experiences of emotional pain and self-compassion. *Qualitative Research in Sport, Exercise and Health*, *6*, 499-516.

Thompson, B. L., & Waltz, J. (2008). Self-compassion and PTSD symptom severity. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies*, *21*, 556-558.

Turner, R. J. (1981). Social support as a contingency in psychological well-

being. *Journal of Health and Social Behavior*, 357-367.

Vealey, R. S. (1986). Conceptualization of sport-confidence and competitive orientation:

Preliminary investigation and instrument development. *Journal of Sport and*

Exercise Psychology, *8*, 221-246.

Vealey, R. S., & Chase, M. A. (2008). Self-confidence in sport.

Vealey, R. S., Garner-Holman, M., Hayashi, S. W., & Giacobbi, P. (1998). Sources of

sport-confidence: Conceptualization and instrument development. *Journal of*

Sport and Exercise Psychology, *20*, 54-80.

Waters, L. (2011). A review of school-based positive psychology interventions. *The*

Educational and Developmental Psychologist, *28*, 75-90.

Watson, D., & Clark, L. A. (1999). The PANAS-X: Manual for the positive and negative

affect schedule-expanded form.

Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college

students' self-regulated learning and academic achievement. *Metacognition and*

Learning, *10*, 293-311.

Wren, A. A., Somers, T. J., Wright, M. A., Goetz, M. C., Leary, M. R., Fras, A. M., ... &

Keefe, F. J. (2012). Self-compassion in patients with persistent musculoskeletal

pain: relationship of self-compassion to adjustment to persistent pain. *Journal of*

Pain and Symptom Management, *43*, 759-770.

Yadavaia, J. E., Hayes, S. C., & Vilardaga, R. (2014). Using acceptance and commitment

    therapy to increase self-compassion: A randomized controlled trial. *Journal of*

    Contextual Behavioral Science, *3*, 248-257.

Yarnell, L. M., Stafford, R. E., Neff, K. D., Reilly, E. D., Knox, M. C., & Mullarkey, M.

    (2015). Meta-analysis of gender differences in self-compassion. *Self and*

    Identity, *14*, 499-520.

BIOGRAPHY

James D. Doorley grew up in Attleboro, Massachusetts and graduated from Bishop Feehan High School in 2008. He received his Bachelor of Arts from the University of Massachusetts Amherst in 2012. After working in the Department of Psychiatry at Massachusetts General Hospital for two years, he began graduate school at George Mason University in 2014. He received his Master of Arts in Psychology in 2016 and will receive his PhD in Clinical Psychology in the Spring of 2021. In the Summer of 2020, he will start his clinical internship at Harvard Medical School/Massachusetts General Hospital in the Integrated Brain Health track.