Resilience and Enhancement in Sport, Exercise, & Training (RESET): A brief self-compassion intervention with NCAA student-athletes

Ashley L. Kuchar [a,*], Kristin D. Neff [a], Amber D. Mosewich [b]

[a] *The University of Texas at Austin, Austin, Texas, USA*
[b] *University of Alberta, Edmonton, Alberta, Canada*

ARTICLE INFO

ABSTRACT

Athletes often believe that self-criticism is necessary to avoid complacency, but this attitude can lead to anxiety and stress. Research shows that self-compassion is an adaptive way to relate to mistakes and challenges. Although there are many benefits of self-compassion, fear that self-compassion harms performance may discourage athletes from adopting this approach. This study developed and tested an online self-compassion intervention for athletes called RESET (Resilience and Enhancement in Sport, Exercise, & Training), adapted from the Mindful Self-Compassion program. Between-group analyses (multilevel modeling; MLM) and within-group analyses (paired *t*-tests) were used to assess the effectiveness of the intervention on athletes' ability to respond compassionately to failure, improve well-being, and increase perceived sport performance. Compared to the waitlist control ($n = 102$, 71% women), the intervention group ($n = 148$, 90% women) experienced greater increases in self-compassion, decreases in self-criticism and fear of self-compassion, and greater improvements in perceived performance. In general, the intervention was more effective for those who had the most room for growth. Within-group analyses supported the MLM findings while also showing that athletes who participated in the RESET program experienced reduced levels of depression, anxiety, and stress. Program evaluation measures, including participant testimonials, extend the quantitative findings and demonstrate that RESET was engaging, well-liked, and effective.

Although there are many advantages of being a college athlete, there are also several unique challenges and pressures faced by these athletes (NCAA, 2019; Wilson & Pritchard, 2005; Yukhymenko–Lescroart, 2014). For example, collegiate student-athletes dedicate substantial time to academics as well as to their sports (NCAA, 2019), creating high levels of time pressure. A recent study conducted by the NCAA (2019) showed that in-season NCAA student-athletes spend approximately 35–40 h a week in academics and an additional 28–33 h a week on athletics. Moreover, NCAA student-athletes are also required to meet certain academic standards such as maintaining a particular GPA in order to compete in their sports, which can be an added stressor. Additionally, student-athletes experience an increased physical workload (e.g., strength and conditioning training), emotional workload (e. g., coping with wins and losses), and mental workload (e.g., learning new plays or strategies) compared to their non-athlete counterparts (Yukhymenko–Lescroart, 2014). The extra demands that student-athletes face when confronting potential failure in their sport (which is often visible to others) may lead to high levels of anxiety and

pressure that can impact their performance and well-being (Jeon et al., 2016; NCAA, 2019).

Negative cognitions, emotions, and behaviors are common after a failure or mistake in sport (e.g., Ferguson et al., 2014; Sutherland et al., 2014). Research among athletes has found that self-compassion – which refers to taking a supportive rather than judgmental attitude to personal imperfection (Neff, 2003b) – leads to greater well-being and more ability to cope with adversity in sports (see Röthlin et al., 2019 for review). Due to the expectation of toughness in sport culture, however, many coaches and athletes believe that harsh criticism is necessary to motivate improvement following mistakes (Mosewich et al., 2014; Sutherland et al., 2014). An abundance of research has demonstrated that this belief is false: self-compassion is actually a highly effective motivator (Neff, 2023) because it facilitates the ability to learn from failure rather than being debilitated by it. For instance, a series of studies by Zhang and Chen (2016) found that self-compassion predicted both self-reported and observer-rated personal improvement after making mistakes. Breines and Chen (2012) gave undergraduates a difficult vocabulary test

that they all did poorly on. One group of students were told to be self-compassionate about the failure and one was given no instructions. Students then had the opportunity to study for a second test, and those who were instructed to be compassionate toward their prior failure spent more time studying than those in the other condition. Moreover, study time was linked to test performance.

Self-compassion is a multifaceted construct that can be organized into three domains of responding to difficult experiences: kindness versus self-judgment; common humanity versus isolation, and mindfulness versus over-identification. The elements of self-compassion work together as a holistic system and form a bipolar continuum ranging from uncompassionate to compassionate self-responding (Neff, 2022). Mindfulness involves balanced awareness of one's present moment suffering which reduces overidentification (fixation on suffering and getting stuck in the past or the future). Common humanity involves recognition that one's painful experience is part of the larger human experience and reduces feelings of separation and isolation from others. Self-kindness involves treating oneself with kindness and support and reduces self-judgment and harsh criticism. Self-compassion can be tender and accepting (e.g., caring for ourselves despite our imperfections) or fierce and action-oriented (e.g., changing unhealthy behaviors and situations) in the service of alleviating suffering (Germer & Neff, 2019).

There have been a few simple intervention studies conducted with athletes designed to increase self-compassion (Mosewich et al, 2013; Röthlin & Leiggener, 2021; Voelker et al., 2019). These interventions have targeted specific concerns and types of athletes. Mosewich et al. (2013) found that a one-week self-compassion intervention – which consisted of an in-person psychoeducational presentation and five written self-compassion modules – reduced state self-criticism, state rumination, and concern over mistakes for highly self-critical women athletes compared to a control group. Röthlin & Leiggener, 2021 followed a similar format as Mosewich et al. (2013) – a psychoeducational component and five writing tasks – but held the intervention over two weeks and recruited both male and female athletes who wanted to decrease their performance anxiety (and thus were not necessarily highly self-critical). Röthlin & Leiggener, 2021 found that their self-compassion intervention successfully increased self-compassion and decreased somatic performance anxiety for male and female climbers compared to a control group. Voelker and colleagues (2019) developed a more in-depth and interactive self-compassion intervention called "Bodies in Motion," specifically for female collegiate athletes. Bodies in Motion consisted of five sessions – one introductory session (35 min) and four 75-min sessions – that included psychoeducational content in addition to experiential exercises such as focusing on the breath. This program was found to decrease thin-ideal internalization in female collegiate athletes compared to athletes in the control group. Self-compassion shows great promise within sport contexts, but there is much more work that needs to be done to understand effective intervention characteristics (e.g., length, timing, teaching modality), whether an intervention that would be effective for a broader variety of athletes could be developed, and whether a self-compassion intervention could positively impact performance outcomes (Mosewich et al., 2019).

A natural progression in the self-compassion and sport literature might be to adapt Mindful Self-Compassion (MSC; Neff & Germer, 2013) - the gold standard self-compassion intervention - for athletes. MSC is an evidenced-based program consisting of eight 2 ½ hour sessions held once a week with an optional half-day silent retreat. It includes a minimal amount of psycho-education and emphasizes experiential practices such as supportive self-touch, developing a compassionate voice of motivation, and guided visualizations designed to evoke self-compassion. It is the most extensively developed, widespread, and well-researched self-compassion training program designed for non-clinical populations (Germer & Neff, 2019). Research has shown that MSC enhances well-being outcomes such as depression, anxiety, stress, life satisfaction, resilience, body image, and physical health (see Ferrari et al., 2019 for

review). MSC has also been successfully adapted for specific populations such as health-care workers (Neff et al., 2020) and adolescents (Bluth et al., 2016). Despite the promising findings of MSC with diverse populations, no intervention study based on MSC has been conducted with athletes. It is possible that teaching athletes practices drawn from this more refined and developed self-compassion intervention might target additional outcomes (e.g., perceived performance, fear of self-compassion, resilience) relevant to a range of athletes (e.g., men athletes, varying self-compassion levels).

The primary goal of the current study was to develop a self-compassion training program for athletes based directly on MSC. Resilience and Enhancement in Sport, Exercise, & Training (RESET) was designed for collegiate student-athletes, keeping in mind the unique culture of toughness and the time demands that they encounter.

The purpose of this study was to test the effectiveness of the RESET program among NCAA student-athletes in terms of increased self-compassion and decreased self-criticism. Since many athletes are hesitant to adopt a self-compassionate approach because they worry that it will undermine performance (e.g., Ferguson et al., 2015; Mosewich et al., 2019), we also examined the effect of RESET on fear of self-compassion (Gilbert et al., 2011). In addition, we examined athletes' overall well-being using measures of general resilience, flourishing, depression, anxiety, and stress as indicators. Finally, because one of the biggest motivators for athletes to engage in any sort of psychological intervention would be to enhance their athletic performance (Brown & Fletcher, 2017), we examined whether RESET would increase athlete-rated and coach-rated performance.

Based on the success of MSC and its various adaptations (e.g., Bluth et al., 2016; Neff et al., 2020; Neff & Germer, 2013) in increasing self-compassion and enhancing mental health, we hypothesized that compared to a waitlist control group, athletes who participated in RESET would report higher levels of self-compassion, lower levels of self-criticism, greater resilience and flourishing, as well as less depression, anxiety, and stress. Moreover, given research indicating that self-compassion training enhances motivation and performance in domains such as academics (Breines & Chen, 2012), and studies indicating that it lowers barriers to successful performance such as performance anxiety (Röthlin & Leiggener, 2021), we hypothesized that participation in RESET would also enhance athletes' perceived sport performance.

1. Method

1.1. Participants

NCAA athletic teams across the United States were recruited using convenience sampling methods through personal connections, social media, and email outreach. Coaches were informed that they would be asked to help facilitate data collection and that at least one coach would need to be present during each session of the intervention. The coach's presence was intended to increase buy-in, adherence, and effectiveness. All athlete and coach participation were voluntary. We used a quasi-experimental design involving an intervention and waitlist control group. Because of athletic teams' different training and competition schedules we could not randomly assign teams to groups. Rather, we recruited teams for the study and then allowed them to choose between two broad time periods to participate in the training, with the first cohort serving as the intervention group and the second as waitlist controls.

To gain an estimate of the number of clusters or athletes needed, a repeated measures power analysis was conducted. The power analysis with a small effect size (Cohen's $d = .20$), $\alpha = 0.01$, two groups, and two time points, revealed that at least 10 NCAA teams (~150 athletes) were needed in order to reach 80% power. To account for the possibility of attrition and the limitations of a repeated measures power analysis for the MLM research design, we aimed to recruit at least 12 NCAA teams (~180 athletes). Estimates were conservative compared to findings from

Mosewich and colleagues' (2013) self-compassion intervention and the 8-week MSC program (Neff & Germer, 2013) which found significant medium to large effect sizes.

The final sample consisted of 14 NCAA teams ($N = 250$ athletes; $M_{age} = 19.69$ years, $SD_{age} = 1.34$ years). On average, there were 20 athletes per team and 87% of athletes opted into the study. Eight teams were in the treatment group ($n = 148$ athletes; 90% women) and six teams were in a waitlist control group ($n = 102$ athletes; 71% women). The total sample was 63% White, 14% Latinx, 11% Black, 6% multiracial, 2% Native American, and 2% Asian. Sports included basketball, swimming, diving, track & field, cross country, soccer, cheer, lacrosse, golf, volleyball, and tennis. Half of the teams came from NCAA Division I universities and 76% of participants reported being on scholarship.

1.2. Procedure

Approval was obtained from the Institutional Review Board for the Protection of Human Subjects (2019-09-0131) to ensure that all ethical guidelines for research were met prior to the conduction of this study, and the authors have no competing interests to declare. Meeting times for the intervention were established with each team, coaches agreed to email the survey links to their team, and informed consent was provided. It should be noted that this intervention took place during the COVID-19 pandemic (January 2021–September 2021) and was the first competitive season since the pandemic began. Some public health restrictions remained which impacted training and competition.

One week prior to the first session, student-athletes in the treatment group were sent the Time 1 (pretest) survey through a secure link to the Qualtrics online survey platform. Each team, including at least one coach, participated in all six sessions of the online intervention via Zoom. Depending on the teams' schedules, however, the time between each session varied by team. On average, the 6-session intervention was held over four weeks ($SD = 1.69$ weeks; range $= 3$–7 weeks). At the conclusion of the intervention, participants in the treatment group completed their Time 2 (posttest) data. On average, teams in the treatment group took the Time 1 and Time 2 surveys six weeks apart ($SD = 1.64$ weeks). One month following the conclusion of the intervention, a Time 3 (follow-up) survey was sent to the treatment group. All scales within each survey were randomly ordered to avoid order effects. There was some attrition in responses: 148 participants completed the Time 1 survey, 123 completed the Time 2 survey, and 85 participants completed the Time 3 survey.

Teams in the waitlist control group received the same Time 1 (pretest) survey as the treatment group. Approximately four and a half weeks ($SD = 0.84$ weeks) following the completion of the Time 1 survey, participants in the waitlist control took the same survey again for their Time 2 data. There was little attrition in responses: 102 participants completed the Time 1 survey and 94 participants completed the Time 2 survey. Once all surveys were completed, teams in the waitlist control participated in the intervention.

1.3. Measures

The Time 1 survey assessed demographic characteristics, self-compassion, self-criticism, fear of self-compassion, well-being, and perceived performance. The Time 2 survey included all of the Time 1 measures (besides demographics) as well as an assessment of treatment feasibility. The Time 3 survey added questions about participants' experiences using the practices they learned after the conclusion of the program. Coaches were also asked to rate participants' athletic performance at all three time points.

1.3.1. Compassion-related measures
Self-Compassion. The athlete version of the Self-Compassion Scale (SCS-AV; Killham et al., 2018) was used to measure athletes' level of self-compassion within sport. The SCS-AV is adapted from the original

26-item Self-Compassion Scale (SCS; Neff, 2003a) and assesses the six different components of self-compassion: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Phrases such as "as an athlete" or "in your sport" were added to make the SCS-AV specific to athletic contexts. Responses are given on a 5-point scale ranging from 1 = "almost never" to 5 = "almost always." Items comprising the negative components are reversed coded. The SCS-AV demonstrates good internal consistency ($\alpha = 0.85$) and test-retest reliability ($r = 0.81$) in women athlete samples (Killham et al., 2018) and in this study ($\alpha = 0.87$).

Self-Criticism. The State Self-Criticism-Athlete Version (SC-AV; adapted by Mosewich et al., 2013) was used to assess athletes' self-critical thoughts and emotions in sport. Participants were asked to reflect on a significant negative event in sport that occurred over the past week and then respond to each of the seven items on a scale from 1 (e.g., had none) to 10 (e.g., a lot of the time). The SC-AV scale demonstrates good internal consistency for women athletes (e.g., $\alpha = 0.86$ to 0.90 Killham et al., 2018; Mosewich et al., 2013) and in this study ($\alpha = 0.91$). As expected, the SC-AV is negatively correlated with self-compassion ($r = -0.39$, $p < 0.05$; Mosewich et al., 2013).

Fear of Self-Compassion. The 15-item Fear of Self-Compassion scale (Gilbert et al., 2011) was used to assess concern with expressing compassion towards oneself (e.g., "I worry that if I start to develop compassion for myself, I will become dependent on it"). Responses are given on a 5-point scale from 0 = "don't agree at all" to 4 = "agree completely." The Fear of Self-Compassion subscale demonstrates good internal consistency with college students ($\alpha = 0.92$; Gilbert et al., 2011) and in the present study ($\alpha = 0.93$). In the present study, athletes were prompted to think about their responses within a sports context.

1.3.2. Well-being measures
Resilience. The Brief Resilience Scale (BRS; Smith et al., 2008) was used to measure an individual's general capacity to bounce back from stress-related adversity (e.g., "It does not take me long to recover from a stressful event."). Responses are given on a 5-point scale (1 = "strongly disagree" to 5 = "strongly agree"). The BRS demonstrates good psychometric properties with undergraduates including good internal consistency ($\alpha = 0.84$ & 0.87), test-retest reliability (ICC $= 0.69$), and predictive validity with health outcomes such as perceived stress ($r = -0.60$; Smith et al., 2008). The BRS has been used with athletes (Nogueira Neves et al., 2018) and demonstrated good internal consistency in the present study ($\alpha = 0.84$).

Flourishing. To measure positive well-being, the brief 8-item Flourishing Scale (FS; Diener et al., 2010) was used. Items assess various aspects of life such as relationships, self-esteem, purpose, and optimism. Ratings are given on a 7-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). This scale demonstrates good reliability ($\alpha = 0.87$) and construct validity among college students (Diener et al., 2010) and in this study ($\alpha = 0.89$).

Depression, Anxiety, Stress. Negative aspects of well-being were measured using the Depression Anxiety Stress Scales (*DASS-21;* Lovibond & Lovibond, 1995). Participants respond to survey items based on their experiences over the past week. Each subscale has 7 items scored from 0 "did not apply to me at all" to 3 "applied to me very much, or most of the time". The DASS-21 has been used to reliably measure depression ($\alpha = 0.94$), anxiety ($\alpha = 0.87$), and stress ($\alpha = 0.91$) for undergraduate populations (Lovibond & Lovibond, 1995) and depression ($\alpha = 0.84$) and stress ($\alpha = 0.82$) for athlete participants (De Francisco et al., 2016). In the present study each variable also demonstrated adequate internal consistency ($\alpha = 0.88$, 0.82, 0.83, respectively).

1.3.3. Perceived sport performance measures
Athlete-Rated Performance. To assess perceived performance, athletes were simply asked to rate their sport performance (e.g., Barczak & Eklund, 2020). Responses were given on a 7-point Likert scale (1 = "far below average; " 7 = "far above average").

Coach-Rated Performance. Since subjective measures can be influenced by individual bias (Raglin, 1992), coaches also provided a rating for each athlete on their team. Responses were given on a 7-point Likert scale (1 = "far below average; " 7 = "far above average").

1.3.4. Treatment feasibility measures

The treatment feasibility measures (similar to those used in Basque et al., 2021) assessed the feasibility and implementation of the intervention, providing greater insight into participants' experiences. Additional questions such as what they learned from the RESET program or what we could do to improve future iterations of the intervention were also asked.

Participant Engagement. In the Time 2 survey, participants were asked to rate their level of engagement with (1) program topics, (2) discussions, and (3) activities (e.g., "During the RESET training sessions, how engaged were you with the topic lectures?"). An average of these three items indicated participants' overall engagement with the intervention. Responses were given on a 7-point Likert scale (1 = "extremely disengaged; " 7 = "extremely engaged").

Ease of Integration. An average of three separate items was used to evaluate how easily the intervention was integrated into each athlete's regular sport routine as well as their ability to embed intervention principles and practices into their sport and daily life (e.g., "Over the last week, I have been able to implement principles and practices from this training into my sport"). Responses were given on a 7-point Likert scale (1 = "strongly disagree; " 7 = "strongly agree").

Intervention Satisfaction. An average of two items was used to evaluate participants' overall satisfaction with the intervention: "I would recommend this training to other student-athletes." and "This training has been helpful to me as a student-athlete." Responses were given on a 7-point Likert scale (1 = "strongly disagree; " 7 = "strongly agree").

Session Attendance. Participants reported the number of training sessions they attended.

Amount of practice. Participants were asked to report how often they intentionally practiced the skills learned in the RESET training as well as how often they used the RESET workbook. Responses were given on a 7-point Likert scale (1 = "never," 2 = "once a month," 3 = "every other week," 4 = "once a week," 5 = "2–3 times/week," 6 = "4–6 times/ week," 7 = "daily"). Participants were also asked how much time (minutes) they spent intentionally practicing the skills learned in the intervention on a daily basis.

1.4. Intervention

RESET was adapted from MSC (Germer & Neff, 2019; Neff & Germer, 2013) and was designed specifically for athletes. Given the athletes' busy schedules, we designed RESET to be briefer than MSC – six 1-h sessions as opposed to eight 2 ½ hour sessions. This condensed format is similar to other MSC adaptations such as one created for healthcare professionals (Neff et al., 2020). In addition to shortening the intervention, we made other important modifications to adapt MSC for sport contexts: (1) language: it incorporated the unique beliefs of toughness in sport culture and the idea that needing help is weak, (2) context-specificity: it focused on effectively coping with difficult sport situations (e.g., failing to meet personal goals), (3) team approach: it included coaches to increase overall team buy-in, adherence, and effectiveness as well as helped teammates support each other, and (4) sport psychology principles: it incorporated positive self-talk and imagery practices. The modifications were piloted with focus groups before delivering the final intervention.

An important change we made to MSC was to omit use of the term "self-compassion" almost entirely. Because of the misunderstandings athletes often have about self-compassion (e.g., Ferguson et al., 2015; Mosewich et al., 2019), we instead described what we called the four pillars of resilience (mindfulness, connection, encouragement, and

productive feedback) which were similar to the core components of self-compassion (mindfulness, common humanity, and self-kindness). We adopted the term resilience as a word that would resonate with and be accessible to athletes when communicating about navigating challenges and needing support. While previous interventions with athletes have used the term "self-compassion" with success (e.g., Mosewich et al., 2013), we chose to reduce barriers to the concept by avoiding the term altogether and instead focusing on explaining the concept using language accessible and familiar to most athletes.

We also felt a briefer intervention would be more practical given athletes' busy training schedules. To shorten the program, we removed any sessions from MSC (Germer & Neff, 2019) that were less applicable to a brief sport-specific intervention (e.g., Session 3 "Practicing Loving-Kindness"). We also selected exercises that could easily be applied to sport situations and did not require meditation skills (e.g., how would you treat a friend, self-compassion break). We included core concepts like backdraft (the difficult feelings that can arise when directing attention toward suffering) to maintain the emotional safety of participants. We also emphasized the action-side of self-compassion to help participants draw the connection between compassion and performance, and gratitude and self-appreciation were included to bring a strength-based focus to the training. Please see the online supplemental materials for a sample of modifications that were made to MSC practices. Additionally, readers can contact the corresponding author for more information about the RESET protocol and resources.

The name RESET - Resilience and Enhancement in Sport, Exercise, & Training - comes from the idea that although mistakes, setbacks, and failures are a normal part of sport, it is the *response* to the struggle that determines the impact on the athlete's performance, motivation, and well-being (Anshel, 1996; Lazarus & Folkman, 1984). The focus on resilience was intentional - providing balance between concepts of mental toughness and self-compassion. Although the term self-compassion was not formally introduced or defined, the concept was maintained in practices like the *Resilient Reset* (which was adapted from the self-compassion break). The Resilient Reset practice was designed to help athletes "bounce forward" from setbacks rather than just returning to baseline. This practice was based on the four pillars of resilience taught in the RESET program: mindfulness, connection, encouragement, and productive feedback.

Mindfulness involves taking a moment to acknowledge the difficult situation and the consequential emotions in a non-judgmental manner (e.g., "I feel the frustration as tightness in my chest."). Connection is an understanding that adversities are a part of sport and something to be learned from (e.g., "Everyone makes mistakes. This can make me stronger."). Encouragement builds up and motivates the athlete (e.g., "You got this!"). Productive feedback helps the athlete identify what can be done in order to improve future performance or their ability to respond better to future challenges (e.g., "Use the cue word 'focus' to direct attention." "Take a deep breath when frustrated."). RESET was designed to give athletes a framework for how to learn from the mistakes, setbacks, and failures that are a normal part of the athlete experience.

Each RESET meeting was held via Zoom and was led by the first author who is a trained MSC teacher. The intervention was delivered to participating coaches and athletes from a single team in order to promote treatment adherence as well as impacting the team-specific culture regarding compassionate responding to sport mistakes and failures. A digital workbook was also provided. Sessions were dynamic and included video clips, reflective writing, imagery exercises, lectures, and group discussions. Session 1 focused on destigmatizing setbacks in sport and introduced the four pillars of resilience. Session 2 taught the role of mindfulness in responding adaptively to setbacks. In Session 3, participants learned how to become more aware of their inner critic's voice as well as how to shift attention towards their inner coach. In Session 4 participants learned the importance of acknowledging personal strengths, expressing gratitude, and practicing self-care. In Session 5,

participants continued to develop their inner coach through a guided meditation practice. In Session 6, participants reflected on their core values and set a plan moving forward.

1.5. Data analysis

A two-level multilevel model (MLM) was used to examine between-group effects. MLM was necessary because responses were nested within teams and were therefore not independent. Additionally, MLM handles missing data effectively by using maximum likelihood techniques. The final model included random intercepts for the team variable, demographic covariates (gender, socioeconomic status, and race), fixed factors for Time 1 and Treatment Group, and a cross level interaction between Time 1 and Treatment Group (R code: lmer(Time 2 ~ Time 1* Group + Gender + SES + Race + (1 | team)). In the case that the interaction was significant, only the interaction was interpreted (Jaccard & Turrisi, 2003). If the interaction term was not significant, the interaction was removed from the model and Time 1 scores and Treatment Group were included only as main effects (Jaccard & Turrisi, 2003). Pairwise *t*-tests were conducted to explore within-group effects over time. Cohen's *d* effect sizes were calculated for each *t*-test.

One sample *t*-tests were calculated for the Time 2 treatment acceptability measures (treatment group only) comparing the Time 2 scores to the midpoint (4) of the 7-point Likert scales. Session attendance was also compared to four (out of six sessions) to test whether participants met the 60% attendance threshold borrowed from Horowitz et al. (2018). Descriptive statistics for the treatment feasibility measures are also provided. Participants who only completed a few questions weren't included in any of the analyses and mean replacement was used for any data that was missing completely at random (<0.0001%). All data analyses were conducted using R version 4.1.1 (R Core Team, 2021) including the *lmerTest* (Kuznetsova et al., 2017) and *lme4* (Bates et al., 2015) packages for specific MLM functions.

2. Results

2.1. Preliminary analyses

Descriptive statistics (i.e., means and standard deviations) for all outcomes were calculated at each time point for the treatment and control group (see Table 1). Independent *t*-tests comparing the treatment group and control group at baseline (Time 1) showed that participants in the treatment group had less self-compassion, higher self-criticism, lower flourishing, higher depression, anxiety, and stress, and better athlete-rated perceived sport performance. No baseline differences were found for fear of self-compassion, resilience, or coach-rated performance at baseline. The Time 1 x Treatment Group interaction included in the between-group analyses accounted for these baseline disparities between groups at Time 1.

2.2. Between-group analyses

Please see Table 2 for a summary of the between-group results. Using MLM, we found a statistically significant Time 1 x Group interaction effect for self-compassion indicating that RESET increased self-compassion for athletes in the treatment group more than controls among participants who started with lower levels of self-compassion at baseline. Similarly, we found a statistically significant Time 1 x Group interaction effect for self-criticism, indicating that RESET decreased self-criticism more than controls for athletes who started with higher levels of self-criticism at baseline. A marginally significant Time 1 x Group interaction effect was found for fear of self-compassion, indicating that RESET decreased fear of self-compassion more than controls for athletes who started with higher levels of fear of self-compassion at baseline. No main effects were found for gender, SES, or race for these measures.

No statistically significant effects were found for the well-being measures of resilience, flourishing, anxiety, depression, and stress when comparing the treatment group to the waitlist control. Additionally, no main effects were found for gender, SES, or race for these measures.

We found a statistically significant Time 1 x Group interaction effect for athlete-rated performance, indicating that RESET increased perceived performance more than controls for athletes who started with lower levels of perceived performance at baseline. A significant main effect of gender for athlete-rated performance was also found, indicating that men athletes rated their performance as higher than women athletes independent of treatment group or time. No main effects were found for SES or race.

In the MLM analysis for coach-rated performance, a significant Time 1 x Group interaction effect was not found. Therefore, the interaction term was dropped from the model to examine the main effect of treatment which was statistically significant. For the treatment group, coach-rated performance went up by .63 points on average from Time 1 to Time 2 in comparison to the waitlist control regardless of coach ratings of their performance at baseline. No main effects were found for gender, SES, or race.

2.3. Within-group analyses

Table 3 presents the results of the within-group analyses. For the waitlist control group, there was a statistically significant decrease in self-criticism from Time 1 ($M = 4.71$, $SD = 2.11$) to Time 2 ($M = 4.19$, $SD = 2.01$), $t(93) = -2.87$, Cohen's $d = 0.30$, $p = 0.005$. No other statistically significant changes from Time 1 to Time 2 were identified within the control group, $ps > .01$.

For the treatment group, self-compassion, self-criticism, and fear of self-compassion significantly improved from Time 1 (pretest) to Time 2 (posttest). Significant improvements were also observed in depression, anxiety, stress, and coach-rated performance. No significant changes were found for resilience, flourishing, or athlete-rated performance. Improvements observed from pretest to posttest in fear of self-compassion, depression, anxiety, stress and coach-rated performance were maintained at the one-month follow-up. Additionally, significant improvements were made from Time 2 to Time 3 for self-compassion and self-criticism, but athlete-rated performance decreased.

Table 1
Descriptive statistics by group and time.

Outcome Measure	Treatment Group			Waitlist Control	
	(*n* = 148) Time 1	(*n* = 123) Time 2	(*n* = 85) Time 3	(*n* = 102) Time 1	(*n* = 94) Time 2
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Self-Compassion	2.91 (.78)	3.22 (.65)	3.33 (.68)	3.19 (.75)	3.27 (.82)
Self-Criticism	5.61 (2.22)	4.73 (1.75)	4.36 (2.19)	4.69 (2.11)	4.19 (2.01)
Fear of Self-Compassion	20.15 (12.85)	16.19 (12.57)	15.82 (13.04)	17.48 (12.08)	16.15 (13.64)
Resilience	3.18 (.81)	3.28 (.66)	3.38 (.70)	3.36 (.74)	3.41 (.68)
Flourishing	45.61 (7.88)	46.32 (6.86)	46.13 (7.30)	48.37 (5.87)	47.98 (5.69)
Depression	11.31 (9.42)	8.41 (7.64)	8.07 (8.95)	6.38 (8.63)	5.20 (6.53)
Anxiety	12.15 (9.49)	9.87 (8.23)	8.87 (9.90)	7.07 (7.86)	6.79 (7.40)
Stress	15.35 (9.03)	12.59 (7.90)	11.62 (9.28)	11.64 (8.60)	10.98 (8.98)
Athlete-Rated Performance	4.12 (1.57)	4.43 (1.30)	4.22 (1.31)	4.64 (1.39)	4.80 (1.48)
Coach-Rated Performance	4.40 (1.22)	4.85 (1.35)	5.13 (1.17)	4.32 (1.40)	4.12 (1.33)

Table 2

Multilevel models examining the treatment effect on all outcomes from time 1 to time 2.

Effect	Estimate	SE	df	t-value	p
Self-Compassion					
Intercept	.56	.29	187.14	1.93	.055
Time 1	.86	.08	195.76	11.10	.000***
Treatment Group	1.31	.33	183.77	3.92	.000***
Gender (Woman)	−.06	.11	100.29	−.55	.585
SES (<Bachelor's Degree)	.06	.09	201.73	−.69	.493
SES (Graduate Degree)	.03	.09	198.86	.31	.766
Ethnicity (Non-White)	−.08	.08	199.61	−1.01	.315
Time 1 x Group	−.39	.10	196.65	−3.89	.000***
Self-Criticism					
Intercept	1.47	.48	53.13	3.063	.003**
Time 1	.58	.08	201.78	7.17	.000***
Treatment Group	1.57	.58	99.08	2.69	.008**
Gender (Woman)	−.21	.30	50.07	−.69	.494
SES (<Bachelor's Degree)	.11	.26	201.32	.44	.663
SES (Graduate Degree)	−.26	.27	200.72	−.98	.329
Ethnicity (Non-White)	.40	.23	185.90	1.73	.086
Time 1 x Group	−.26	.10	202.00	−2.55	.012*
Fear of Self-Compassion					
Intercept	2.50	2.43	50.88	1.03	.308
Time 1	.84	.08	193.00	9.94	.000***
Treatment Group	2.12	2.53	48.17	.84	.407
Gender (Woman)	−.73	1.86	65.16	−.39	.696
SES (<Bachelor's Degree)	1.00	1.58	201.81	.63	.529
SES (Graduate Degree)	−1.29	1.61	200.45	−.80	.425
Ethnicity (Non-White)	−.27	1.39	193.37	−.20	.844
Time x Group	−.18	.11	195.65	−1.65	.100
Resilience					
Intercept	1.69	.22	123.83	7.71	.000***
Time 1	.52	.05	202.65	10.42	.000***
Treatment Group	−.05	.09	8.93	−.59	.570
Gender (Woman)	−.06	.11	56.05	−.56	.577
SES (<Bachelor's Degree)	.06	.09	202.86	.66	.510
SES (Graduate Degree)	.10	.09	201.68	1.11	.267
Ethnicity (Non-White)	−.08	.08	191.83	−.99	.326
Flourishing					
Intercept	18.41	2.61	145.77	7.05	.000***
Time 1	.61	.05	202.24	12.30	.000***
Treatment Group	−.17	.72	7.19	−.23	.824
Gender (Woman)	−.07	.90	32.27	−.08	.941
SES (<Bachelor's Degree)	.23	.80	200.91	.29	.770
SES (Graduate Degree)	.86	.82	202.83	.1.05	.295
Ethnicity (Non-White)	−1.17	.70	181.54	−1.66	.100
Depression					
Intercept	2.89	1.56	36.52	1.85	.073
Time 1	.40	.05	198.92	8.42	.000***
Treatment Group	1.78	1.39	11.57	1.28	.226
Gender (Woman)	−.45	1.29	115.31	−.35	.729
SES (<Bachelor's Degree)	.07	1.01	202.37	.07	.942
SES (Graduate Degree)	−1.52	1.04	199.71	−1.46	.145
Ethnicity (Non-White)	.51	.93	201.52	.56	.580
Anxiety					
Intercept	1.43	1.58	35.15	.90	.375
Time 1	.53	.05	200.76	11.16	.000***
Treatment Group	.36	1.45	11.81	.25	.81
Gender (Woman)	1.14	1.30	122.30	.88	.38
SES (<Bachelor's Degree)	1.13	1.01	202.04	1.12	.26
SES (Graduate Degree)	−.70	1.03	199.208	−.68	.50
Ethnicity (Non-White)	.78	.93	201.95	.84	.40
Stress					
Intercept	3.57	1.73	38.50	2.06	.047*
Time 1	.54	.05	198.82	9.96	.000***
Treatment Group	−.03	1.44	10.56	−.02	.984
Gender (Woman)	.06	1.42	98.64	.04	.965
SES (<Bachelor's Degree)	1.13	1.13	202.61	1.00	.320
SES (Graduate Degree)	−.33	1.16	199.48	−.29	.771
Ethnicity (Non-White)	1.40	1.02	200.43	1.37	.173
Athlete-Rated Performance					
Intercept	2.52	.57	124.38	4.44	.000***
Time 1	.61	.10	176.44	6.10	.000***
Treatment Group	1.39	.64	132.36	2.18	.031*
Gender (Woman)	−.77	.26	112.26	−2.98	.004**
SES (<Bachelor's Degree)	.02	.21	178.22	.09	.928

Table 2 (*continued*)

Effect	Estimate	SE	df	t-value	p
SES (Graduate Degree)	−.36	.22	177.11	−1.65	.101
Ethnicity (Non-White)	.32	.19	179.86	1.66	.098
Time 1 x Group	−.32	.13	176.60	−2.60	.010*
Coach-Rated Performance					
Intercept	1.68	.45	85.69	3.77	.000***
Time 1	.62	.07	128.58	8.54	.000***
Treatment Group	.63	.24	8.39	2.70	.026*
Gender (Woman)	−.36	.26	61.09	−1.38	.171
SES (<Bachelor's Degree)	.04	.23	129.93	.17	.865
SES (Graduate Degree)	.000	.24	129.97	−.003	.998
Ethnicity (Non-White)	.17	.21	117.36	.82	.414

Note. p < 0.05* < 0.01** < 0.001***

2.4. Treatment feasibility

On average, athletes spent 15 min per day (*SD* = 15.99) practicing intervention exercises and principles and used the workbook about once a month during the intervention period. Session attendance was high (*M* = 5.10; *SD* = 1.22). Likert scale ratings for participant engagement (*M* = 5.56; *SD* = 1.19), ease of integration (*M* = 5.09; *SD* = 1.16), and intervention satisfaction (*M* = 5.70; *SD* = 1.14) were significantly higher than the midpoint (*p* < 0.001), demonstrating positive responses to the intervention. Moreover, 60% of participants provided a testimonial about RESET, all of which were positive.

3. Discussion

The RESET program appeared to improve NCAA student-athletes' ability to relate more compassionately and less critically to their failures and setbacks, support well-being, and enhance perceptions of performance. Athletes and coaches were also able to implement RESET practices and principles into their daily routines.

Findings from the MLM analyses that compared outcomes for the waitlist control to the treatment group suggest that RESET was effective in achieving its goal – helping athletes to be kinder to themselves rather than harshly self-critical in response to difficult sport situations. However, due to the quasi-experimental design, further research is needed to determine causation. MLM accounted for the clustering effect (i.e., the intervention being delivered to entire teams) and, by including the Time 1 x Group interaction, we were able to determine whether the RESET intervention likely operated differently for those who were higher or lower on the outcomes being assessed at baseline. This interaction is especially important in our study as we did not recruit participants based on low levels of self-compassion or high levels of self-criticism like previous self-compassion intervention studies with athletes (e.g., Mosewich et al., 2013; Voelker et al., 2019).

In the between-group analyses, we found that the intervention raised self-compassion to a significantly larger extent than was found for the control group, but only for those who initially had moderate to low self-compassion. Similarly, we found that the intervention lessened self-criticism significantly more than the control group among those who were initially stronger self-critics. This interaction effect may reflect that there was more room for improvement for those who were lower on each outcome at baseline and a ceiling effect for those higher on these measures at baseline. That is to say that the intervention may have still been helpful for those who were initially higher on these outcomes, but we were limited in our ability to measure the impact.

Within-group analyses extended the between-group findings on self-compassion and self-criticism and revealed that student-athletes who participated in RESET significantly improved from Time 1 (pre-test) to Time 2 (post-test) in terms of increased self-compassion and reduced self-criticism. Additional improvements were also observed at Time 3 (one month follow-up). The fact that athletes became even more self-compassionate and less self-critical after the intervention ended

Table 3

Pairwise T-Tests Comparing Time 1 and Time 2 as well as Time 2 and Time 3 on All Outcomes for the Treatment Group.

Outcome Measure	Time 1	Time 2				Time 2	Time 3			
	M (SD)	*M (SD)*	*t*-value (*df*)	*p*	Cohen's *d*	*M (SD)*	*M (SD)*	*t*-value (*df*)	*p*	Cohen's *d*
Self-Compassion	3.03 (.76)	3.22 (.65)	3.10 (122)	.002**	.28	3.24 (.64)	3.33 (.68)	2.45 (80)	.028*	.25*
Self-Criticism	5.52 (2.25)	4.73 (1.75)	−4.04 (122)	.000***	.36	4.70 (1.66)	4.23 (2.13)	−2.12 (80)	.038	.23
Fear of Self-Compassion	18.99 (12.87)	16.19 (12.57)	−2.93 (122)	.004**	.26	14.84 (11.35)	14.90 (12.63)	.06 (80)	.950	.000
Resilience	3.23 (.81)	3.28 (.66)	.82 (122)	.416	.07	3.31 (.71)	3.41 (.71)	1.84 (80)	.071	.20
Flourishing	46.20 (7.45)	46.32 (6.86)	.20 (122)	.839	.02	47.12 (6.05)	46.23 (7.39)	−1.48 (80)	.142	.16
Depression	10.47 (9.17)	8.41 (7.64)	−2.67 (122)	.001**	.24	6.86 (6.24)	7.43 (8.48)	.62 (80)	.538	.07
Anxiety	12.23 (9.77)	9.87 (8.23)	−3.35 (122)	.001**	.30	8.94 (8.26)	8.35 (9.76)	−.74 (80)	.458	.08
Stress	14.91 (8.99)	12.59 (7.90)	−3.45 (122)	.001***	.31	11.48 (7.54)	11.06 (8.96)	−.51 (80)	.611	.06
Athlete-Rated Performance	4.25 (1.55)	4.43 (1.30)	−1.26 (108)	.110	.12	4.63 (1.21)	4.25 (1.30)	−2.42 (64)	.019*	.30
Coach-Rated Performance	4.40 (1.24)	4.81 (1.43)	−3.02 (83)	.003***	.33	5.13 (1.18)	5.17 (1.21)	.35 (83)	.728	.04

Note. $p < 0.05* < 0.01** < 0.001***$

Due to listwise deletion for missing data in *t*-tests, the means and standard deviations in this table are different from the descriptive statistics presented in Table 1. The degrees of freedom for perceived performance ratings are lower than other measures due to circumstances such as injury or COVID protocol that prevented athletes or coaches from providing performance ratings for that week.

suggests that they learned skills they could practice in their daily life.

Student-athletes within the control group also demonstrated a small but significant decrease in self-criticism from Time 1 to Time 2. It may be that coaches who signed up their teams for a study to improve athletes' mental skills were already implementing various tools to help their athletes manage the challenges of collegiate sport which accounted for this decrease. A study of MSC (Neff & Germer, 2013) found that waitlist controls increased in self-compassion because they took initiative to learn about self-compassion on the internet while they were waiting for the intervention. A similar phenomenon may have occurred here.

The intervention was also found to decrease fear of self-compassion. Between-group analyses found this decrease to be marginally larger for intervention participants compared to controls, especially among those who started with stronger reservations about being kind to oneself. Within-group analyses found a significant decrease for intervention participants and no change for control participants. This is an important finding because a common barrier for athletes to participate in self-compassion interventions such as MSC is the worry that self-compassion leads to complacency and poorer performance (e.g., Ferguson et al., 2014; Reis et al., 2021; Sutherland et al., 2014). Consequently, exploring multiple avenues to reduce athletes' apprehension towards self-compassion was a major focus in the development of RESET. Some changes that were made when adapting MSC for athletes that appeared to be successful. For instance, we chose not to use the term "self-compassion" and instead reframed it using concepts more accessible to athletes (e.g., pillars of resilience) throughout the training. We also used small and large group discussions to destigmatize the concern that approaching setbacks with self-compassion and encouragement was weak. Additionally, we made a point to demonstrate both the tender and accepting as well as fierce and action-oriented sides of self-compassion (Neff, 2003a). For instance, we helped athletes and coaches recognize the connection between accepting the fact that mistakes happen with the encouraging feedback that leads to improved performance. Although future research will be needed to determine if these changes made self-compassion training more acceptable to athletes than other approaches (e.g., Mosewich et al., 2013), we did find that they were effective in RESET.

With regard to overall well-being, between-group analyses did not find significant differences between groups for any of the well-being measures. However, within-group analyses found that participating in the RESET program yielded significant decreases in depression, anxiety, and stress (no improvements were found for the waitlist controls). This discrepancy between the within-group analyses and between-group analyses may be an issue of power as the between-group analyses were clustered by team which significantly reduced power to detect treatment effects. Numerous studies have linked self-compassion to

well-being (e.g., MacBeth & Gumley, 2012) and intervention studies have demonstrated the effectiveness of self-compassion in reducing psychopathology in various populations (see Ferrari et al., 2019 for review). It is possible that with a larger sample (i.e., more teams) between group differences would have been obtained. Given the need for effective mental health interventions for athletes (Gavrilova & Donohue, 2018; Kroshus, 2014; Watson, 2005), potential improvements in well-being is a meaningful finding and provides hope that the benefits of RESET may extend beyond sport contexts. The brief RESET intervention did not appear to increase general resilience or flourishing in either the treatment or control group. It may take more time and practice to see a significant shift in overall resilience and flourishing, especially given major stressors like a pandemic.

Between-group analyses found that coach-rated and self-rated performance increased between Time 1 and Time 2 to a greater degree for those in the treatment group compared to the control group. Coach-rated performance increased for all participants in the treatment group compared to the control group regardless of baseline levels. Self-rated performance improved for student-athletes in the intervention group who initially rated their performance as average or below average at baseline compared to the control group. Similarly, within-group analyses found that coach-rated performance significantly increased in the treatment group from Time 1 to Time 2 (no increase was found in the control group). Surprisingly, athlete-rated performance did not change from Time 1 to Time 2 for the intervention or control groups, and in fact significantly decreased for athletes in the intervention group at the Time 3 follow-up assessment. The decrease may have been due to the time of season, since many athletes had ended their season and were unable to provide performance ratings. This is the first known study to demonstrate that a self-compassion intervention can increase athletes' perceived sport performance (coach-rated or self-rated), which is an important finding for high level athletes and coaches as well as for self-compassion researchers. These findings are supported by research that suggests improvements in well-being (e.g., less stress) and coping (e.g., less self-criticism) can have a significant impact on perceived athletic performance (McCarthy, 2011) as well as correlational data which has found a significant relationship between self-compassion and perceived performance (Barczak & Eklund, 2020; Killham et al., 2018) as well as actual performance (Doorley et al., 2022).

Interestingly, athlete-rated performance was the only study outcome where there was a main effect for gender. Men athletes had higher overall levels of self-rated perceived performance, independent of time or group. This finding is consistent with previous research for college athletes (Chalabaev et al., 2013; Corbin et al., 1983). Self-confidence or stereotype threat may play a role in these differences (Chalabaev et al., 2013; Corbin et al., 1983). Unfortunately, there were not enough men in

the treatment group and waitlist control to explore this main effect further, or to test for interaction effects across variables. Nonetheless, this study provides an important contribution to the literature as there are few self-compassion studies where men athletes were included in the sample (Reis et al., 2021; Reis et al., 2019; Reis et al., 2015; Voelker et al., 2019; Wasylkiw & Clairo, 2018).

The NCAA student-athletes and coaches rated the RESET program positively and attested to using the skills they were taught. Athletes reported that they practiced the intervention exercises and principles daily and used the workbook about once a month. Session attendance was high and attrition was relatively low. Moreover, athletes reported being engaged by the training, that they could easily integrate it into their routine, and that they were satisfied with it. A majority of participants provided testimonials indicating that RESET positively impacted various aspects of their lives. For example, several athletes commented on how RESET helped them humanize their difficult experiences ("Everyone is human and mistakes will happen."), separate their self-worth from their performance ("I am more than an athlete."), and learn tools to help them be more resilient in sport and other life domains ("It helped me grow as a person which improved my life in both my sport and daily life."). Coaches commented on how participating in the RESET program with their teams improved their coaching ("It opened my eyes to how student-athletes internalize adversity, mistakes, opposition and that has really helped shape how I coach them.").

3.1. Limitations and future directions

There were limitations to this study that should be kept in mind when interpreting results. First, it is important to recognize the potential threats to internal validity when using a quasi-experimental design; future studies could use random assignment and an attentional control group to improve validity and better assess causation. Second, the small number of clusters limited the power to detect small effects in the MLM analyses. Third, there was some discrepancy regarding the length of time between Time 1 and Time 2 surveys for the treatment group ($M =$ 6.13, $SD = 1.64$ weeks) and waitlist control ($M = 4.50$, $SD = 0.84$ weeks). Fourth, caution should be used when interpreting the Time 3 follow-up results for the treatment group since only 85 out of 148 participants completed both surveys, and it may be that it was primarily those athletes who benefitted from the program that filled out the final survey. Finally, future studies could examine additional time points (i.e., six months, one year, and five years) to gain greater clarity on athletes' change over time after participating in RESET and also to determine if benefits generalize to non-athletic contexts.

3.2. Applied considerations

Although more research is needed to determine the efficacy and effectiveness of RESET, we anticipate that this intervention will be generalizable to a broad array of athletes (e.g., ages, genders, sports) and in various settings (online, in-person, group, individual). Whether athletes are competing in professional, college, or youth levels, they will experience setbacks, and RESET may help them learn how to manage those difficult situations in ways that support adaptive coping, well-being, and performance. In the present study, we conducted RESET with entire teams (including coaches) which appeared to be helpful. Coaches reported that they were able to implement RESET practices and language into their regular training schedules and teammates stated that they learned how to support one another. We know from past research that self-compassion may be contagious amongst teammates (Crozier et al., 2019) which is why a team environment can be effective; however, we see scope to adapt RESET for individual athletes or groups of athletes without a coach present. Also, RESET was delivered by a trained MSC teacher. We feel that having prior training in delivering self-compassion interventions is important to effectively teach RESET, and we are in the process of developing a RESET Instructor Training for this

reason. Overall, more research is needed to test the effectiveness of RESET with a broader range of athletes, examine individual versus group and in person versus online delivery, and assess the importance of coaches' presence and buy-in.

4. Conclusion

This study makes a significant contribution to the literature as well as to applied sport psychology. The present study was the first to develop and test a self-compassion intervention based on the empirically-supported MSC program (Neff & Germer, 2013). In terms of application, RESET is an accessible intervention that supports a more compassionate response to sport failures and mistakes, well-being, and perceived sport performance for collegiate student-athletes.

Collegiate sport may provide an optimal environment for student-athletes to learn valuable life skills due to daily practice and possible coach and teammate support. Based on athlete feedback and testimonials, a common aspect of the intervention that athletes found helpful was to go through RESET as a team. Not only did the athletes learn how to encourage their teammates when they were struggling but having common language around resilience allowed athletes to remind their teammates to "reset." This simple cue helped teammates support each other's development of adaptive responses to failure in sport. Therefore, taking an entire team approach may have acted like an equalizer – athletes who were already caring toward themselves after failure had the opportunity to model this behavior while those who were less compassionate had the support needed to improve their responses (Crozier et al., 2019).

RESET stands to support student-athlete compassion, well-being, and performance by helping athletes and coaches learn to productively respond to adversity and failure, rather than merely reacting to it. The implications of this study for student-athletes are potentially far reaching and may help transform the college experience of student-athletes so they can better manage stressful situations in athletics (e.g., injuries, transition out of sport), academics (e.g., exams, time commitments) and other life domains (e.g., socially). RESET may be implemented into other high level performance domains such as business, academics, music, or art.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.psychsport.2023.102426.

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