

Bend but don't break: An exploratory analysis of a 12-week resilience building intervention for NCAA athletes

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Though researchers have examined the efficacy of resilience interventions in professional athletes, there is a dearth of research focusing on athletes who compete in the National Collegiate Athletic Association (NCAA). These individuals experience significant stressors yet often underutilize mental health resources available to them. To this end, the current work presents findings from an exploratory study testing the effectiveness of a 12-week resilience intervention in a sample of 40 NCAA Division I athletes from various sports with freshmen, Caucasian, and women making a majority of the sample. Following the intervention, participants' overall resilience scores significantly increased. Additionally, athletes were significantly more likely to seek instrumental support from others (e.g., family, friends, teammates) as a coping mechanism. These findings warrant further empirical research to test the utility of similar interventions in enhancing not only athlete wellness and performance, but also promoting help-seeking behaviors, which may be critical towards dismantling the mental health stigma within this population.

KEY WORDS: Collegiate athletes, Coping strategies, Proactive resilience training, Sport psychology.

National Collegiate Athletic Association (NCAA) athletes face distinct stressors stemming from the dual demands of academic and athletic responsibilities. In addition to academic commitments, athletes must make time to practice, travel for games, and review game film (Rothschild-Checroune et al., 2012; Wolanin et al., 2015). Thus, many NCAA athletes report high levels of anxiety (Davoren & Hwang, 2014), clinical depression (Wolanin et al., 2016), and substance use (Knettel et al., 2023). Specifically, research has shown that 39.5% of NCAA student-athletes report having experienced significant levels of anxiety within the past 12 months, and 24.5% of them report having experienced de-

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pression within the same time period (Davoren & Hwang, 2014). Other studies have shown that nearly one-quarter (23.7%) of NCAA student-athletes report experiencing clinical levels of depressive symptoms (Wolanin et al., 2016).

The recent COVID-19 pandemic exacerbated mental health concerns among student-athletes, magnifying the importance of mental fitness when dealing with psychological distress in sport. A large study involving 24,974 NCAA athletes revealed that levels of mental exhaustion, persistent sadness, and hopelessness increased above already alarming levels during the pandemic (National Collegiate Athletic Association, 2021). For instance, on average, 58% of student-athletes reported experiencing mental exhaustion, 34.5% reported persistent sadness, and 23% reported hopelessness in data collected between 2015-2017. During fall 2020, student-athletes reported significantly higher levels of these issues with 75.5% reporting mental exhaustion, 68.5% reporting persistent sadness, and 56.5% reporting hopelessness. Taken together, these mental health concerns, some of which are twice as high as those previously reported in 2015-2017, necessitate more empirical work related to these pertinent issues.

Despite these mental health concerns, NCAA student-athletes underutilize resources related to mental wellness and are less likely to seek treatment when referred by a coach or team member (Wahto et al., 2016). Relatedly, Watson (2005) reported that student-athletes report more negative attitudes towards help-seeking behaviors when dealing with mental challenges compared to their non-athlete peers. In contrast, Bird et al. (2018) found no differences in stigmatization between college athletes and non-athletes, highlighting the need for more empirical work on this topic in light of the inconsistent findings. As for what factors may contribute towards athletes' negative attitudes towards help-seeking behaviors, researchers have noted that athletic departments' overall stigma towards mental health and negative views about mental skills training from coaches play a prominent role (Moreland et al., 2018; Wrisberg et al., 2010). Further, athletes themselves can perceive significant social stigma from seeking mental health support and report this as a primary barrier preventing them from seeking assistance (Gulliver et al., 2012). Many athletes also report internalized fears that they will be perceived as "weak" by their teammates if they seek mental assistance (López & Levy, 2013; Delenardo & Terrion, 2014). This may be particularly true for male athletes who strongly identify with their gender and athletic identity (Steinfeldt et al., 2009).

More empirical research is required to determine how mental health concerns among student-athletes compare to those in non-athlete populations. In a recent meta-analysis, Kegelaers and colleagues (2024) found in-

consistent rates of mental health problems in student-athletes compared to non-athlete samples, with studies reporting similar, higher, and lower rates. This complexity is compounded by fluctuations in mental health concerns across different phases of the athletic season, with symptoms often peaking during intense training periods and subsiding during the off-season (Shields et al., 2017). Moreover, student-athletes who are deselected from teams reported lower subjective well-being scores compared to both selected athletes and non-athletes (Brand et al., 2013). These findings underscore the importance of further empirical work to understand the psychological experiences of student-athletes and to inform strategies to support their athletic and academic success.

Resilience Versus Stress Management

One emerging avenue for combating the issues outlined above involves cultivating mental resilience in order to maintain consistent performance in high pressure situations. Resilience – defined as one’s ability to withstand pressure and successfully adapt during adversity – is a critical skill for athletes to develop (Imtiaz et al., 2017). This is distinct from traditional stress management, which by definition aims to manage and cope with stressors as they arise (Holman et al., 2018). In contrast, resilience training teaches individuals to leverage adversity and use it as fuel to elevate levels of performance that would not otherwise be possible without the stress (Fletcher & Sarkar, 2016). One of the ways resilience training achieves this is by normalizing the human stress response and teaching participants proactive skills for keeping it in check. For example, when athletes develop awareness about how to shift one’s focus from external factors that are uncontrollable (e.g., other people, the past or future) to internal variables that are under one’s control (e.g., preparation, attitude; Neves et al., 2022), and learn to act on this knowledge by proactively preparing a detailed plan of action before the stressor occurs, they are much more likely to respond with ‘resilience’ instead of succumbing to the stressor. Interestingly, researchers have recently highlighted that emphasizing proactive resilience building (instead of a traditional stress management approach) may not only enhance individual and team performance but also indirectly decrease the stigma associated with social support and help seeking behaviors (Sarkar & Page, 2022). To this end, the current research involved an initial exploratory analysis of the efficacy of a proactive resilience building intervention aimed at cultivating resilience and personal well-being among NCAA athletes.

Resilience Interventions in Sport

According to Gould et al. (2002), resilient athletes must be able to cope with high pressure situations (e.g., regulate emotions efficiently, maintain control) and be able to adapt quickly to new situations. Sport psychologists have argued that resilience must be trained proactively so that athletes can be better equipped to respond to stressful situations as they arise (Fletcher & Sarkar, 2016). This idea of cultivating resilience in athletes by simulating stress and anxiety during training sessions (i.e., an asset-building paradigm) has been found to produce better outcomes when compared to a deficit reduction approach where individuals are taught to deal with and manage stressors after they occur (Benson, 2003; Fraser-Thomas et al., 2005).

Existing research investigating the characteristics of resilient athletes has focused primarily on professional athletes competing at the international level (Fletcher & Sarkar, 2012; Kegelaers, 2019). In contrast, resilience interventions targeting amateur athletes within the NCAA are scarce. The few recent studies examining this issue have shown promise in increasing collegiate athletes' adaptive coping strategies, use of instrumental support, mindfulness, and resilience. For example, Vidic (2021) conducted a 22-session (20 to 60 minutes per session) psychological skills training and mindfulness intervention with 30 NCAA ice hockey players, finding that levels of resilience and mindfulness significantly increased over the course of the intervention. Further, both coaches and athletes reported that they believed the intervention improved their in-game performance. The researcher emphasized the benefits of using a longitudinal approach (as opposed to single training sessions) towards obtaining these promising findings and encouraged future work to build on these results by using proactive, long-term interventions with amateur athletes. In related work, Sullivan et al. (2021) examined the efficacy of a pilot resilience training program with 79 NCAA athletes, finding that intentions to use adaptive coping strategies, instrumental support, and self-control significantly increased following the four-session program. Again, the researchers highlighted the potential of such programs to alleviate the mental health concerns of collegiate athletes and underscored the need for more empirical work building on these findings.

Another gap in this literature is that most of the existing research has taken a retroactive approach to examining how athletes respond to challenge and adversity (Galli & Gonzalez, 2015). That is, while research using qualitative interviews to examine the thoughts and beliefs of athletes who overcame significant adversity in the past is no doubt valuable, longitudinal interventions that take a proactive approach in preparing athletes *before* the stressor

occurs remain sparse. This is of particular importance to collegiate athletes who simply do not have the luxury to retroactively learn from their past and build resilience in lieu of their limited window to compete due to NCAA eligibility rules. As such, it is imperative that practitioners begin to develop proactive programs that facilitate the development of resilience and mental wellness skills that can aid athletes *during* their collegiate careers.

Resilience and Coping Strategies in Athletes

Athletes must not only proactively build resilience but also employ various coping strategies to manage daily stressors and challenges. Research suggests that resilience and coping are interrelated yet distinct constructs that influence both performance and well-being in sports (Fletcher & Sarkar, 2013). Specifically, resilience involves proactive preparation before a stressful event, whereas coping encompasses adaptive (and sometimes maladaptive) responses to stressors once they occur.

Seminal work by Gould et al. (1993) highlighted the complex interplay of coping strategies employed by elite athletes, who continually assess and reassess demands, drawing on past experiences and current context to inform their responses. The ability to balance leveraging past successes with the resilience and confidence to apply novel (and often untested) skills is one of the factors that sets elite athletes apart from their competition. This concept informs the current work, where a key goal of proactive resilience training is to enable individuals to draw on past experiences while remaining adaptable and open to novel approaches, even when they find this emotionally challenging.

Research on the connection between resilience and coping strategies in sport is limited. A notable exception is the study by Belem and colleagues (2014), which found that elite beach volleyball athletes employed a range of coping strategies with “coping with adversity” (i.e., problem-focused responses) and “confidence and achievement motivation” (i.e., goal-setting and confidence in achievability) having the most significant positive impact on resilience. Another notable study by Secades et al. (2016) investigated the relationship between resilience and coping strategies in various individual and team sports. The findings revealed that resilience was positively correlated with task-oriented coping (e.g., “I take concrete actions to solve the problem”) and negatively correlated with disengagement (e.g., “I resign myself to the situation”) and distraction (e.g., “I think about other things to distract myself”). Kuçuk Kılıç (2020) extended these findings, demonstrating that resilience was positively

correlated with self-confident coping (e.g., making a concrete plan and following it) and optimistic coping (e.g., believing in one's ability to overcome challenges). Conversely, resilience was negatively correlated with helpless coping (e.g., accepting defeat and resigning oneself to the stressor).

In sum, the findings above collectively suggest that resilience in athletes is positively linked to coping strategies characterized by problem-solving, task orientation, and self-efficacy, while being negatively associated with helplessness and disengagement. Notably, these studies consistently underscored the need for further empirical research in this area, particularly in diverse settings and populations (e.g., NCAA Division I Athletics).

Coping Strategies in College Athletes

Recently, Knettel and colleagues (2023) explored which coping strategies student-athletes' endorsed the most when dealing with challenge and adversity. The analysis revealed that *positive reframing* (i.e., looking for the positive in various situations), *acceptance* (i.e., learning to accept and live with setbacks), and *active coping* (i.e., taking concrete action to improve the situation) were the top three endorsed strategies among student-athletes. On the other hand, *behavioral disengagement* (i.e., giving up on trying to cope with a situation), *denial* (i.e., telling oneself that "this isn't real"), and *substance use* (i.e., using alcohol or other drugs to help cope) were the three least preferred coping strategies. Interestingly, the researchers also found that student-athletes experiencing elevated levels of stress were significantly more likely to rely on substances as a coping mechanism, which was in turn associated with elevated risks of binge drinking, marijuana use, and substance related risky behavior (Knettel et al., 2023). In light of these findings, the researchers asserted that targeted interventions focused on teaching student-athletes proactive and healthy coping strategies are required in order to mitigate the risk of harmful drinking and substance use.

Along these lines, a mental wellness pilot program developed and tested by Kern and colleagues (2017) reported that a brief, proactive intervention that aimed to teach NCAA Division I athletes about mental health best practices and provide them with the tools and resources available to them on campus showed promise in alleviating mental health problems among student-athletes. Specifically, the pilot program produced significant improvements in a large sample of 626 student-athletes on a host of variables including help-seeking behaviors, supporting one's teammates, increased knowledge about mental wellness, and decreased stigma. These promising

findings highlight the need for more intensive research examining the impact of longitudinal, proactive interventions aimed at equipping student-athletes with the tools required to navigate the unique stressors in their lives.

The Current Research

Considering NCAA athletes experience unique and significant stressors, it is crucial that athletic departments work to provide these individuals with resources that will improve their wellness and ability to cope with adversity. As such, the purpose of this study was to conduct an initial exploratory assessment of a proactive, 12-week resilience training intervention with NCAA Division I athletes. We hypothesized that athletes who participated in the intervention would report significantly higher levels of overall resilience at the post-test compared to the pre-test (Hypothesis 1). We also hypothesized that utilizing a proactive, asset-building paradigm (as opposed to a reactive, deficit-reduction approach) would help de-stigmatize mental health in these athletes, in turn making them significantly more willing to seek instrumental support after the intervention (Hypothesis 2).

Methods

PARTICIPANTS

A power analysis was conducted to determine the appropriate sample size using G*Power version 3.1.9.7 (Faul et al., 2007). Results suggested that the present study was appropriately powered to detect a medium effect for paired sample *t*-tests ($N = 34$) and a one-way repeated MANOVA ($N = 33$) with 80% power at a significant level of .05.

The study originally included 40 NCAA Division I varsity student-athletes (women = 74%, men = 26%; $M_{\text{age}} = 19.05$, $SD = 1.54$) from a large university in the United States. The athletes represented various varsity sports teams including men's swim and dive; women's swim and dive; women's field hockey, and men's baseball. Individuals from various racial backgrounds were represented in the study (87.18% Caucasian, 5.13% Asian or Pacific Islander, 5.13% Black or African American, 2.56% Hispanic). Students from all academic years were also included (freshmen = 64.10%, sophomores = 15.38%, juniors = 7.69%, seniors = 12.82%

MEASURES

Brief Resilience Scale (BRS)

The BRS is a 6-item questionnaire that assesses one's overall ability to overcome adversity (Smith et al., 2008). Participants were asked to respond to a list of statements (e.g., "I have

a hard time making it through stressful events” or “I tend to bounce back quickly after hard times”) using a Likert-scale where 1 represents “strongly disagree” and 5 represents “strongly agree.” Questions 2, 4, and 6 were reverse coded. All responses were averaged, with potential means ranging from one to five. Higher scores indicated higher levels of resilience. Prior literature has found this measure to have high levels of validity and reliability with Cronbach alphas ranging from .80 to .91 (Smith et al., 2008). Similar internal consistency was found in the present study (.86 at both the pre and post tests).

Brief COPE

The Brief COPE evaluates participants’ reliance on various coping strategies (Carver, 1997). This 28-item assessment is based on 14-subscales including self-distraction, active coping, denial, substance use, emotional support, instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. Examples of these statements include, “I’ve been getting help and advice from other people” (instrumental support) and “I’ve been refusing to believe that it has happened” (denial). Participants are asked to rate the extent that they use the following coping skills on a scale of 1 (“I haven’t been doing this at all”) to 5 (“I’ve been doing this a lot”). Some researchers have grouped the subscales into different coping styles (e.g., problem-focused, emotion-focused, avoidant; Dollen et al., 2015); however, there is no official total score. Each subscale ranges from two to eight and can be calculated by adding the scores of the two items that correspond to it. These subscales are internally consistent with Cronbach alphas ranging from .50 to .90 (Carver, 1997). In the present study, alphas for the subscales ranged from .48 (“self-distraction”) to .89 (“substance use”) at the pre-test, and ranged from .35 (“active coping”) to .90 (“emotional support”) at the post-test (see supplementary materials for the alphas of all subscales at pre and post). Given that the reliability of two of the subscales (“self-distraction” at pre-test and “active coping” at both timepoints) fell outside the psychometric range previously identified by Carver (1997), these subscales were removed from the analyses.

Engagement

To assess engagement and acceptability, participants were asked to report how many resilience workshops they attended, how frequently they tried to implement the skills into their lives (1 representing “never” and 5 representing “daily”), and rate the usefulness of the program (1 representing “not useful at all” and 4 representing “extremely useful”).

PROCEDURE

Prior to participation, ethical clearance from the university research and ethics board was obtained. During the pre-intervention testing phase, participants from the selected teams received an email from the athletic department regarding the opportunity to voluntarily sign up for this program. Once enrolled in the program, participants were emailed a link to the pre-program survey. Informed consent was obtained before participants completed a brief demographics questionnaire and the battery of measures outlined above. Shortly after the survey was distributed, the collegiate athletes began the resilience intervention. At the end of

the intervention period, they again completed the same measures that they completed pre-intervention to gauge the impact of the intervention. All participants were entered in a \$25 gift card raffle to compensate them for their time.

Resilience intervention

The “Bend but Don’t Break” program was established at Towson University through an interuniversity collaboration between the Athletics Department and a faculty member and his research team in the Department of Psychology. Before the program was formally developed and tested, meetings were held between the research team and varsity athletes, coaches, and administrators to gather insights about what the program should entail. Recent studies have emphasized the importance of involving diverse stakeholders who will be impacted by sport interventions, as this approach can enhance both uptake and effectiveness of the resulting programs (Ageberg et al., 2024; Matheson et al., 2023). Themes such as decreasing mental health stigma, increasing resilience and mental fortitude, and enhancing both wellness and performance predominated these conversations. Based on this, an informal pilot program was carried out with athletes from the men’s/women’s golf and women’s tennis teams to gauge the usefulness of potentially developing a formal resilience building program. This pilot program was composed of three group discussions (one hour each) with all of the athletes from the various teams to introduce the field of sport psychology and how it may be useful to varsity athletes (along with fielding questions from them). Though no data was collected during this informal pilot phase, internal debriefing sessions carried out by athletes, coaches, and staff from the Athletics Department ultimately led to the “Bend but Don’t Break” program being formally crafted and administered by the research team.

The program was developed based on the existing literature and the aforementioned faculty member’s prior applied experience as a sport psychologist (10+ years) and former varsity collegiate athlete. Emerging research looking at mental skills training in collegiate athletes has found that the facilitator’s professional training (i.e., Doctorate degree in psychology), applied experience (i.e., 10+ years in the field of sport psychology), and lived experience (i.e., having been a college athlete yourself in order to be able to relate effectively with the athletes) are all critical factors for ensuring the successful implementation of such interventions (Vidic, 2021). As all three of these elements were present in the current research, we felt confident that the program would be delivered with a high degree of effectiveness.

Recent work on sport psychology interventions has also highlighted that a longitudinal approach is the most effective way to implement mental skills training in sport, with a clear positive relationship between length of intervention and positive outcomes at the post-test (Vidic, 2021). Thus, along with teaching athletes the skills required to cope effectively with stress, it is critical to give them the opportunity to go test their efficacy in the real world and then come back with any questions that they may have before scaffolding up to the next skill. With this in mind, we determined that a 12-week longitudinal design would fit nicely into the 16-week long university semester and give athletes ample opportunities to test the skills they were learning throughout the ups and downs of a hectic university semester. The program was delivered in a large lecture hall on the university’s athletics campus to all of the participants simultaneously.

In terms of identifying intervention topics, guidelines for crafting psychological skills training programs were reviewed (Birrer & Morgan, 2010; Fletcher & Sarkar, 2016; Vidic, 2021; Weinberg & Gould, 2019) to determine the core group of topics that the program

would use as a foundational base. This process yielded topics such as frontloading and resilience (Sarkar & Page, 2022), mindfulness and performance (Imtiaz et al., 2018), relaxation techniques (Benson & Klipper, 1975), and reframing and control (Knettel et al., 2023). This was then combined with topics that had been identified as pertinent based on the facilitator's practical experience, emerging trends in the literature, and insights from the pilot study and discussions with the Athletics Department. This led to topics such as strategic recovery and sleep (Loehr & Schwartz, 2006) and crafting a personal philosophy and self-talk (Gervais & Caroll, 2020) being added. A description of all the topics covered in the program can be found in Table I. This flexible approach of combining established topics from previous frameworks with practical experience and novel applications based on the emerging knowledge base has been identified as critical for ensuring uptake, engagement, and understanding in mental training interventions (Vidic, 2021).

TABLE I
Description Of Main Topics Covered In The Resilience Program.

Topic title	Summary of main concepts covered
Frontloading and resilience (Sarkar & Page, 2022)	Introduction to sport psychology and defining resilience; distinction between proactive and reactive interventions, and importance of frontloading and simulating stress before challenge (Benson, 2003; Fraser-Thomas et al., 2005); dealing with uncertainty and fear in sport; learning how to compete.
Mindfulness and performance (Imtiaz et al., 2018)	Defining mindfulness in sport (Vidic, 2021); discussion on the pitfalls of multitasking; the importance of regulating emotions efficiently (Gould et al., 2002); how to practice being mindful in sport, school, and life; group mindful practice at end of session followed by question and answer period.
Relaxation techniques (Benson & Klipper, 1975)	Highlighting the intricate relationship between the mind and the body; the importance of moderating physiological arousal in order to enhance attentional control (Rooks et al., 2017); tactical breathing and progressive muscle relaxation theory and practice (Benson & Klipper, 1975); discussion of how to apply these techniques live during sporting competitions.
Reframing and control (Knettel et al., 2023)	The importance of perspective and frame of reference; using reappraisal as a stress management tool (Knettel et al., 2023); the locus of control (LOC; Neves et al., 2022); how to shift towards an internal LOC; group exercises on defining and moving away from things outside of the LOC; highlighting the relationship between an external LOC and energy management.
Strategic recovery and sleep (Loehr & Schwartz, 2006)	Defining burnout and exhaustion in sport (Walker et al., 2002); highlighting the relationship between stress (energy out) and recovery (energy in); how to oscillate between moments of exertion and recovery in sport; how to infuse strategic recovery across various facets of life (hourly, daily, weekly, monthly) to avoid burnout (Loehr & Schwartz, 2006).
Personal philosophy and self-talk (Gervais & Caroll, 2020)	Introduction to Maslow's hierarchy of needs (Maslow, 1943); discussion centered around athletic identity; the importance of authenticity in sport and life; how to craft a personal philosophy to guide self-talk in sport (Gervais & Caroll, 2020); connecting the personal philosophy with other sport psychology concepts covered throughout the program.

The program oscillated between live group sessions (60 minutes each) and voluntary support sessions for any follow-up questions and additional support. Between these sessions, athletes were instructed to practice applying the skills they had learned in their athletic, academic, and personal lives and encouraged to reach out to the sport psychologist for additional questions and assistance as needed.

DATA ANALYSIS

A paired samples *t*-test was conducted to gauge the impact of the intervention on participants' resilience. Additionally, a one-way repeated measures Multivariate Analysis of Variance (MANOVA) was conducted to measure the effect of time on the use of different coping mechanisms. Given the small sample size, pairwise deletion was used to maximize the use of all available data. In total, there were six participants who did not complete the entirety of their post-intervention survey. As a result, two of these participants were excluded from the paired samples *t*-test, and four were excluded from the MANOVA.

Results

ENGAGEMENT

Participants reported attending approximately 81% of the offered sessions. Most participants (87.5%) found the program to be useful. Overall, 52.5% of the sample reported implementing and practicing the skills learned at least once a week, 25% reported practicing two to six times a week, and 5% reported practicing daily. Only 17.5% ($n = 7$) reported only practicing the skills in the group workshops.

RESILIENCE

In terms of levels of overall resilience, results from the paired samples *t*-test indicated a statistically significant difference between the two time points, with a moderate effect size, $t(37) = -2.32$, $p = .026$, $d = -0.38$, 95% CI [-0.45, -0.03]. In line with hypothesis one, collegiate athletes reported more overall resilience at the post-test ($M = 3.33$, $SD = 0.80$) than the pre-test ($M = 3.09$, $SD = 0.76$).

BRIEF COPE

Findings from the one-way repeated MANOVA indicated a significant difference in coping mechanisms across assessment timepoints, $F(12, 24) =$

2.37, $p = .04$; Wilk's $\lambda = 0.46$, partial $\eta^2 = .54$. Of the 14 subscales, instrumental support had significant results, $F(1, 35) = 10.80$, $p = .002$, partial $\eta^2 = .24$, 95% CI [-1.35, -0.32]. More specifically, in line with hypothesis two, athletes were more willing to seek help from others after completing the intervention ($M = 5.61$, $SD = 1.57$) compared to before ($M = 4.65$, $SD = 1.46$). Results for the remaining subscales can be found in Table II.

Although other subscales were not statistically significant, it is important to note that other positive coping mechanisms were trending in a promising direction, indicating a general positive overall effect of the intervention. For instance, in line with the significant results related to instrumental support, athletes sought more emotional support from others after the program ($M = 5.25$, $SD = 1.78$) compared to before ($M = 4.78$, $SD = 1.66$; $p = .21$, 95% CI [-0.79, 0.18]). Athletes also engaged in more positive reframing after the intervention ($M = 5.69$, $SD = 1.69$) compared to before ($M = 5.20$, $SD = 1.45$; $p = .19$, 95% CI [-1.12, 0.23]). Meanwhile, unhealthy coping strategies such as self-blame (pre-intervention $M = 5.33$, $SD = 1.93$; post-intervention $M = 4.89$, $SD = 1.83$; $p = .15$, 95% CI [-0.16, 0.99]) and behavioral disengagement (pre-intervention $M = 3.55$, $SD = 1.52$; post-intervention $M = 3.14$, $SD = 1.40$; $p = .15$, 95% CI [-0.13, 0.80]) decreased following the interven-

TABLE II
Results From MANOVA Examining The Effect Of Time On Coping Strategies.

Subscales	Pre-test M (SD)	Post-test M (SD)	F-value	p-value	Partial η^2
Acceptance	5.50 (1.34)	5.53 (1.48)	0.19	.66	.005
Positive Reframing	5.20 (1.45)	5.69 (1.69)	1.79	.19	.05
Instrumental Support	4.65 (1.46)	5.61 (1.57)	10.80	.002*	.24
Denial	3.20 (1.49)	3.11 (1.65)	0.02	.90	.000
Substance Use	2.33 (0.83)	2.36 (0.80)	0.89	.35	.03
Emotional Support	4.78 (1.66)	5.25 (1.78)	1.64	.21	.05
Behavioral Disengagement	3.55 (1.52)	3.14 (1.40)	2.12	.15	.06
Venting	4.40 (1.63)	4.42 (1.40)	0.09	.76	.003
Self-blame	5.33 (1.93)	4.89 (1.83)	2.17	.15	.06
Planning	5.35 (1.69)	5.44 (1.68)	0.07	.79	.002
Humor	4.53 (1.93)	4.47 (1.78)	0.01	.92	.000
Religion	3.93 (1.86)	4.44 (1.54)	2.31	.14	.06

*p-value less than .05

tion. Again, though these differences were not statistically significant, they all show a similar promising pattern in terms of the impact of the intervention.

Discussion

Research has shown that mental health concerns are increasing among collegiate athletes (Davoren & Hwang, 2014; Knettel et al., 2023; Wolanin et al., 2016). Though NCAA student-athletes are exposed to significant stressors, they often hesitate to utilize the mental wellness resources at their disposal (Wahto et al., 2016). Against this backdrop, the present study aimed to explore the efficacy of a proactive, 12-week resilience intervention crafted specifically for NCAA Division I athletes. Results indicated that participants experienced significant increases in overall resilience and use of instrumental support following the intervention compared to before it. Other findings were promising but did not reach statistical significance. Still, the general pattern of results clearly highlighted the utility of the intervention. Considering the potential value of decreasing mental health problems in athletes (Chow et al., 2021) and providing them with psychological tools that can be applied both on and off the field (Sullivan et al., 2021; Vidic, 2021), further investigations into the efficacy and implementation of these types of programs is warranted.

INSTRUMENTAL SUPPORT

One important finding from the current work was that athletes who participated in the intervention were more likely to use instrumental support as a coping mechanism at the post-test. An increased willingness to turn to others for support may be particularly crucial for collegiate athletes as previous research has shown that athletes with a strong support system have greater well-being and reduced burnout rates (Simons & Bird, 2023; Shang & Yang, 2021). Receiving emotional support from others (e.g., compassion, love, empathy) can also help athletes feel understood and cared for, especially while dealing with injuries, setbacks, and stress (Yang et al., 2014).

Participation in the intervention may have led to enhanced instrumental support in athletes at the post-test by challenging their preconceived notions about help-seeking behaviors through the use of a proactive, asset-building resilience training program (as opposed to a traditional stress management intervention). The first module of the program emphasized the proactive nature of resilience interventions (i.e., one does not need to be unwell to

seek support and elevate their mental performance), and this sentiment was reinforced throughout the program. This is important for practitioners as it highlights how a simple reframing of how the intervention is presented to athletes and coaches may have a profound impact on how it is perceived, in turn impacting program uptake, engagement, and efficacy. Research has shown that outside of sport, groups that have traditionally been resistant towards mental health programs (e.g., military personnel) respond significantly better to interventions that focus on resilience and mental fitness compared to those focusing on traditional stress-management (Reivich et al., 2011).

Another potential explanation for why the present intervention may have improved athletes' willingness to use instrumental support as a coping mechanism after the program involves the personnel that was used to deliver the program. That is, using sport psychologists that are not embedded full-time within the Athletics Department may be advantageous for such interventions as these individuals may be viewed as more neutral and less judgmental compared to departmental staff. In the current work, having a qualified sport psychologist with more than 10 years of applied experience along with direct lived experience as a former varsity collegiate athlete was a major strength in terms of being able to relate to the athletes and solicit their buy-in. This, in turn, may have encouraged athletes to seek instrumental support from others more effectively than if they were to receive the same message from coaches and staff that are internal to the department. This is not to say that internal counselors and psychotherapists do not have a role to play in alleviating the issues facing today's college athletes, but instead to highlight the fact that a multi-faceted approach whereby individuals of diverse educational and professional backgrounds (and both internal and external to athletics departments) work together to approach the problem from unique lens' may be the most fruitful avenue towards solving these issues.

OVERALL RESILIENCE

The significant findings related to the impact of the intervention's overall resilience are also promising for future research. Although resilience interventions for NCAA athletes are scarce, the few studies that have focused on this population, including the present one, have all highlighted the importance and ability to increase resilience through these programs (Sullivan et al., 2021; Vidic, 2021). Interestingly, Vidic (2021) found that although a resilience program with NCAA Division I ice hockey players led to significant increases in overall resilience at the post-test, no significant differences were

reported in decreases to stress levels. That is, the intervention was able to enhance athletes' resilience without decreasing their perceived levels of stress.

As stress levels are often outside of athletes' locus of control (e.g., injuries, playing time, coaching changes; Neves et al., 2022), focusing more on building up individual resilience internally may prove to be a more effective means towards coping with challenge and adversity. Past work in sport psychology has shown that an internal locus of control is associated with positive outcomes including commitment to one's sport and time spent training (Neves et al., 2022). In the current work, one of the modules focused specifically on reframing and shifting athletes' focus from external stressors to variables inside their locus of control. Though it is important to note that the reframing subscale was not statistically significant in the current work, athletes did show improvement on this variable ($M = 5.69$ following the intervention compared to $M = 5.25$ before; $p = .19$). Future work should aim to build on these findings by testing the ability of resilience interventions to improve athletes' reframing skills and examine the interaction between this variable, overall resilience, and stress levels.

Related to the promising findings on overall resilience, recent work with NCAA athletes (Sullivan et al., 2021) reported that a proactive resilience training program led to increased intentions to use adaptive coping strategies at the post-test compared to before. Specifically, athletes who participated in the program were significantly more likely to respond to stress by using strategies such as self-control and social support when stressors arose. This supplements the protocol and findings of the "Bend but Don't Break" program as athletes were taught to proactively anticipate stressors before they occurred and learned skills that would help them respond to the stressors in an adaptive manner instead of simply managing the stress. These findings mirror previous research at the intersection of resilience and coping which has indicated that resilience is positively correlated with coping strategies such as problem-solving (Belem et al., 2014), task orientation (Secades et al., 2016), and self-efficacy (Belem et al., 2014; Kuçuk Kılıç, 2020), while being negatively correlated to coping strategies such as helplessness (Kuçuk Kılıç, 2020) and disengagement (Secades et al., 2016).

By cultivating resilience proactively, collegiate athletes will be better equipped to deal with stressful situations before they arise and adjust more easily to new and challenging environments (Gould et al., 2002). With this, collegiate athletes may be better poised to balance their dual identities during their academic years and adjust to life after their athletic career ends. Seeing that a 12-week program was able to enhance these skills in a relatively quick manner and without significant demands may also make these programs more accessible for athletic departments and their athletes.

Limitations and Future Research

The present study had a limited sample size. Only some of the athletic teams were able to participate in the program due to their busy schedules (e.g., being in the middle of a season, rigorous off-season training schedule). This limited our sample of eligible athletes for the program, and in turn, may have weakened statistical power for the analyses described above. Further, the present study lacks a control group. This hindered our ability to compare the efficacy of the intervention to an alternative program. Future studies should examine the impact of this intervention compared to related but distinct programs (e.g., time management programs; social development programs; counseling and clinical psychology focused programs).

Additionally, the present study could have better captured participant's engagement with the intervention. For example, participants had the option to attend additional support sessions, yet the post workshop surveys did not query to what extent (if at all) participants used sessions (e.g., asked questions regarding the content or were interested in additional practice skills). This information would have been critical in understanding the impact of these additional sessions and whether engagement with these sessions facilitated greater improvements in outcomes.

As the NCAA is a fairly unique competitive arena for amateur athletes, future research should also examine the efficacy of proactive resilience training programs in other non-professional athlete samples such as youth sport or high-school sports. Similarly, examining all of these samples across distinct cultures may be fruitful as different regions of the world view sport through their unique cultural lens.

Conclusion

The present findings suggest that a 12-week proactive resilience intervention with NCAA Division I athletes showed promise in improving athletes' overall resilience and enhancing their willingness to reach out to others for instrumental support. As both variables are important to athlete wellness and performance, future research should aim to replicate these findings with similar interventions in order to draw more generalizable conclusions. Athletic departments should also consider supplementing athletes' physical training with psychological skills training regimens. This is particularly important considering the lack of willingness to use mental health resources in this population, despite the significant stressors they experience. By adapting

a more holistic approach, athletic departments may provide their athletes with a broader scope of skills and mental training that will be valuable in all domains of their life beyond their athletic and academic career.

APPENDIX

Supplementary Materials

Cronbach Alphas for Subscales on the Brief Coping Questionnaire.

Subscales	Pre-test	Post-test
Acceptance	0.54	0.63
Positive Reframing	0.76	0.82
Instrumental Support	0.72	0.77
Self-distraction	0.48	0.63
Active Coping	0.48	0.35
Denial	0.86	0.84
Substance Use	0.89	0.87
Emotional Support	0.79	0.90
Behavioral Disengagement	0.63	0.80
Venting	0.73	0.68
Self-blame	0.71	0.84
Planning	0.82	0.70
Humor	0.86	0.84
Religion	0.89	0.71

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