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## Attitude of Gratitude: Exploring the Implementation of a Gratitude Intervention with College Athletes

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This study explored the implementation of a 90-min Attitude of Gratitude workshop among 51 National Collegiate Athletic Association Division I student-athletes. Levels of state gratitude, psychological distress, life satisfaction, sport satisfaction, athlete burnout, and perceived available support in sport were measured the week before, immediately after, and 4 weeks postintervention. Significant increases in well-being (state gratitude, sport satisfaction, social support) and significant decreases in ill-being (psychological distress, athlete burnout) were observed postintervention. Results of this pilot study warrant further exploration of gratitude interventions in applied sport psychology. Limitations, practical implications, and recommendations for future research are discussed in light of the current findings.

**Lay Summary:** Fifty-one NCAA Division I athletes participated in a one-time “Attitude of Gratitude” workshop. Following the workshop, student-athletes scored higher on measures of well-being and lower on measures of ill-being as compared to their baseline scores. Results encourage further exploration of positive psychology interventions such as gratitude in the sport context.

Positive psychology as a field seeks to examine what constitutes optimal human functioning (Seligman & Csikszentmihalyi, 2000). In a similar way, the field of sport psychology

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is interested in studying factors that contribute to optimal human performance, specifically in the kinesthetic realm. Positive psychology interventions (PPIs), defined as methods of treatment that intentionally seek to cultivate positive emotions, have been shown to increase psychological well-being (Sin & Lyubomirsky, 2009). In addition to cultivating positive emotions, the purpose of PPIs is to promote positive behavior, cognitions, and/or meaning in life (Bolier et al., 2013; Seligman, Steen, Park, & Peterson, 2005; Wong, 2006). PPIs are usually focused around a particular concept within positive psychology, such as optimism, hope, gratitude, forgiveness, mindfulness, spirituality, kindness, or altruism (Sin & Lyubomirsky, 2009). As both fields of positive and sport psychology have developed in recent decades, researchers are just beginning to explore the potential benefits of PPIs with athletes.

### **BROADEN-AND-BUILD THEORY OF POSITIVE EMOTIONS**

The framework of the current study is based on Fredrickson's (2004) broaden-and-build theory of positive emotions, which purports that positive emotions expand our cognitive and behavioral processes in two major ways: They allow us to (a) *broaden* our ideas and potential actions, and (b) *build* our resources through the development of useful traits, abilities, and reserves. Interventions designed to cultivate positive emotions during stressful times may enhance one's ability to respond and cope with adversity (Wagstaff & Leach, 2015). This may hold implications for athlete mental health and sport performance. Positive emotions can assist in building and using valuable resources to achieve positive outcomes (Fredrickson, 2004), which may be incredibly valuable within athletics where adversity is inherent to the domain. For example, cultivating gratitude by acknowledging benefits received from others may enhance perceptions of support, thus building an athlete's social resources. Positive emotions may also enable an athlete to make more creative and adaptive decisions within the field of play. Maintaining a grateful mindset can build one's thought-action repertoire (Fredrickson, 2004), allowing for better coping strategies and problem-solving abilities when an athlete needs them the most.

### **GRATITUDE AND ATHLETE WELL-BEING**

The field of positive psychology has supported the identification and utilization of client strengths to elicit positive outcomes in mental health and well-being (Wong, 2006). Gratitude may be considered a character strength that can be developed and honed to increase benefits in daily life (Wong, McKean Blackwell, Goodrich Mitts, Gabana, & Li, 2017), as it has been associated with positive affect, subjective well-being, positive relationships, and physical health (Wood, Froh, & Geraghty, 2010). Gratitude is defined as acknowledging a benefit received from another, or recognizing the value of a general benefit in one's life (Lambert, Graham, & Fincham, 2009). Gratitude is usually seen as a state—an emotion experienced in the moment (i.e., feeling grateful). However, gratitude may also exist as a trait, meaning that an individual may have a "grateful" disposition, in disposition. In this way, gratitude is viewed more as a life orientation (i.e., way of life, personality type; Lambert et al., 2009). Not only has state gratitude been correlated with higher optimism, life satisfaction, prosocial behavior, social support, and lower negative affect (Froh, Sefick, & Emmons, 2008), but trait gratitude has also been found to predict psychological well-being and life satisfaction (Wood, Joseph, & Maltby, 2008, 2009). Researchers have acknowledged that positive reframing may play a role in the effectiveness of gratitude expression. Reinterpreting one's problems as positive (i.e., seeing the

good in negative situations) can mediate the relationship between gratitude, increased well-being, and decreased distress (Lambert et al., 2009). Increased relatedness to others has also been found to mediate the effects between a gratitude intervention and increased levels of well-being (Layous & Lyubomirsky, 2014).

In the first known study to examine the concept of gratitude in sport, researchers found significant positive relationships between dispositional (i.e., trait) gratitude and both life satisfaction and team satisfaction among adolescent athletes in Taiwan (Chen & Kee, 2008). In addition, gratitude was significantly negatively correlated with the sport devaluation and reduced sense of accomplishment dimensions of athlete burnout. Furthermore, researchers measured sport-domain gratitude and found a significant positive correlation with team satisfaction and significant negative correlation with athlete burnout (Chen & Kee, 2008). In another series of studies conducted with Taiwanese high school athletes, researchers found that perceived social support and perceived team cohesion were mediators in the relationship between trait gratitude and life satisfaction (Chen, 2013; Chen, Kee, & Chen, 2015). Grateful athletes also demonstrated higher self-esteem when they exhibited greater trust toward their coaches (Chen & Wu, 2014). More recently, gratitude was examined among National Collegiate Athletic Association (NCAA) collegiate athletes in the United States (Gabana, Steinfeldt, Wong, & Chung, 2017); trait gratitude was significantly negatively correlated with athlete burnout and significantly positively correlated with sport satisfaction. Similar to research by Chen (2013), perceived available support in sport served as a mediator in both of these relationships (Gabana et al., 2017).

Although research thus far has focused on exploring the relationships between gratitude and athlete well-being, no known studies to date have examined the implementation of a gratitude PPI with an athletic population. Gratitude PPIs typically involve activities such as writing letters, writing lists of grateful events, and expressing gratitude behavior (Kaczmarek et al., 2015; Wood et al., 2010). Gratitude lists have been used most often in the intervention literature, as this is a simple technique that may be used in the clinical setting and is easy for participants to continue practicing in the future (Emmons & McCullough, 2003). Interventions that inspire participants to contemplate gratitude toward people, things, or moments have the potential to enhance subjective well-being, life satisfaction, optimism, and self-esteem while decreasing negative affect (Emmons & McCullough, 2003; Froh et al., 2008; Rash, Matsuba, & Prkachin, 2011). Although writing letters of gratitude has been shown to produce significant emotional and interpersonal effects directly after the intervention, these effects tend to dissipate over time, whereas listing “three good things” every day for 1 week had more lasting effects on psychological well-being (Seligman et al., 2005). Watkins, Uher, and Pichinevskiy (2015) found that participants who were instructed to write down three good things and *how* it made them feel grateful experienced significant increases in subjective well-being compared to two alternative treatment groups.

### **Student-Athlete Mental Health**

As noted in the NCAA GOALS Study (NCAA, 2016a), the number of students experiencing mental health issues has increased on college campuses in recent years. “The 2015 GOALS data highlights similar concerns among student-athletes, with about 30% self-reporting that they have been intractably overwhelmed during the past month” (NCAA, 2016a, para. 12). Although previous studies on gratitude among athletic populations have examined variables such as life satisfaction, burnout, and social support (Chen, 2013; Chen & Kee, 2008; Gabana, et al., 2017), the extant literature has not yet examined the

relationship between gratitude and psychological distress among student-athletes. Researchers have suggested that future studies on student-athlete gratitude include measures of ill-being (defined as a deficiency in mental health or happiness) in addition to measures of well-being (e.g., satisfaction, perceived social support; Chen, 2013; DeFreese & Smith, 2014). Within the collegiate domain where student-athletes are balancing expectations to succeed academically, athletically, personally, and socially, athletes may experience burnout due to the high demands of competitive sport (Raedeke & Smith, 2001). Burnout can negatively affect athletes' cognitive and emotional experiences beyond the sport context (DeFreese & Smith, 2014). Given the findings of the 2016 NCAA GOALS Study, it is worth examining whether gratitude interventions can be used to decrease or cope with psychological distress and burnout among college athletes, especially as gratitude has been linked to lower levels of depression, anxiety, and negative affect (Froh et al., 2008; McCullough, Emmons, & Tsang, 2002) and increased positive affect (Wood et al., 2010).

Perceived social support can be an important indicator of student-athlete mental health (DeFreese & Smith, 2014), as higher levels of perceived available support in sport have been associated with lower levels of athlete burnout (Freeman, Coffee, & Rees, 2011; Gabana et al., 2017). Social support in sport can also serve as a buffer to stress, reducing deleterious effects on performance (Rees & Hardy, 2004). Furthermore, grateful people are more likely to seek out and use social support, both instrumentally and emotionally (Wood, Joseph, & Linley, 2007). Gratitude can enhance one's ability to notice available resources, thereby increasing the likelihood that one will use those resources (Wood et al., 2007). If an athlete feels supported, gratitude is more likely to increase satisfaction and decrease symptoms of burnout. Student-athlete gratitude, specifically, has been associated with higher levels of sport satisfaction, life satisfaction, and team satisfaction (Chen, 2013; Chen & Kee, 2008; Chen et al., 2015; Gabana et al., 2017). In the NCAA GOALS Study, an emphasis was placed on evaluating student-athlete satisfaction by assessing well-being and experiences of student-athletes in athletic, academic, social, and mental health domains (NCAA, 2016a). Given the recent associations demonstrated between gratitude and satisfaction (both broad [i.e., life] and context-specific [e.g., team] sport), as well as the focus on student-athlete satisfaction by the NCAA, empirical investigation is warranted to examine whether gratitude interventions can increase life and/or sport satisfaction among college athletes.

## AIMS AND HYPOTHESES

The purpose of the current study was to explore the implementation of a gratitude PPI with NCAA college student-athletes. We hypothesized that participants' gratitude, life and sport satisfaction, and perceived social support scores would be higher, and psychological distress and burnout scores would be lower, at Time 2 (postintervention) and Time 3 (4 weeks postintervention) than Time 1 (baseline).

## METHOD

### Participants

Participants ( $N = 51$ ) were 27 male wrestlers and 24 female swimmers from an NCAA Division I university. Freshmen ( $n = 18$ ), sophomores ( $n = 17$ ), juniors ( $n = 8$ ), and seniors ( $n = 8$ ) 18–23 years of age ( $M = 19.8$  years,  $SD = 1.2$  years) were included in the study. Both teams were in season at the time of data collection. Participants identified as

Caucasian ( $n = 45$ ), African American/Black ( $n = 2$ ), Hispanic or Latino/a ( $n = 2$ ), Asian or Asian American ( $n = 1$ ), and multiracial ( $n = 1$ ).

## Measures

Survey questionnaires were administered to participants the week prior to (Time 1), immediately after (Time 2), and 4 weeks postintervention. In addition to demographics, each measure consisted a self-report Likert-type scale. Mean scores were calculated to constitute a total score for each variable.

### *State gratitude*

The Gratitude Adjective Checklist (GAC; McCullough et al., 2002) was used to measure state gratitude. Since the gratitude PPI implemented in the current study was expected to be likely to impact state gratitude as compared to dispositional gratitude, as the latter is more commonly regarded as a personality trait and thus more difficult to manipulate with a one-time intervention. The GAC consists of three statements assessing how accurately the adjectives “grateful,” “thankful,” and “appreciative” describe oneself, rated from 1 (*not at all*) to 5 (*extremely*). This scale has demonstrated high internal consistency ( $\alpha = .87$ ; Froh et al., 2007) and discriminant and convergent validity in both adult and adolescent samples (McCullough et al., 2002). Cronbach’s alpha was .92.

### *Psychological distress*

The Behavioral Symptom Inventory-18 (BSI-18; Derogatis, 2001) was used to measure psychological distress. It includes three subscales (Depressive, Anxiety, and Somatization symptoms) with 18 items ranging from 0 (*not at all*) to 4 (*very much*). The BSI-18 has been highly correlated with the full-length BSI ( $r = .90$ ; Andreu et al., 2008). Cronbach’s alpha was .88.

### *Life and sport satisfaction*

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure global life satisfaction. This five-item measure is rated using a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The SWLS has demonstrated high internal consistency, high convergent validity, correlations with other subjective well-being measures (e.g., Life Satisfaction Index-A,  $\alpha = .81$ ), high temporal reliability, and good test–retest reliability ( $\alpha = .84$ ; Pavot, Diener, Colvin, & Sandvik, 1991). The alpha for the current sample was .87. An adaptation of the SWLS was used to evaluate sport satisfaction with the permission of the original researchers (Diener et al., 1985). In the adapted version, referred to as the Satisfaction with Sport Scale (SWSS) in the current study, “life” was substituted by “collegiate sport experience.” Cronbach’s alpha for the current sample was .92.

### *Athlete burnout*

The Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001) was used to measure levels of burnout in sport. The ABQ consists 15 items with three subscales: Emotional and Physical Exhaustion, Reduced Sense of Accomplishment, and Sport Devaluation. Items range from 1 (*almost never*) to 5 (*almost always*). The ABQ has been positively correlated with amotivation ( $r = .31$  to  $.64$ ) and trait anxiety ( $r = .14$  to  $.46$ ), and negatively correlated with enjoyment ( $r = -.40$  to  $-.61$ ) and commitment ( $r = -.37$  to  $-.76$ ).

All three subscales have demonstrated good test–retest reliability. Sport Devaluation and Reduced Sense of Accomplishment subscales have been most significantly and negatively correlated with gratitude (Chen & Kee, 2008; Gabana et al., 2017). Cronbach’s alpha was .88.

### *Perceived social support*

The Perceived Available Support in Sport Questionnaire (PASS-Q; Freeman et al., 2011) consists of 16 items with four subscales: Emotional, Esteem, Informational, and Tangible Support. Responses range from 0 (*not at all*) to 4 (*extremely*). Good model fits were found for all four dimensions of the PASS-Q; this structure has been validated to assess perceived support within the sport context (Freeman et al., 2011) and has demonstrated good test–retest reliability (.73–.84) and internal validity (Cronbach’s  $\alpha = .69-.87$ ). The PASS-Q has been correlated with higher self-confidence and lower burnout among athletes (Freeman et al., 2011). Cronbach’s alpha was .96.

### **Procedure**

Upon Institutional Review Board approval, varsity student-athletes were recruited to participate in a 90-min Attitude of Gratitude workshop sponsored by the student-athlete academic center on campus. One week prior to the intervention (Time 1), participants were sent a survey link consisting of informed consent; demographic questionnaire; and the GAC, BSI-18, ABQ, SWLS, SWSS, and PASS-Q. The primary researcher led two sections of the workshop, one for each team. The workshop consisted of three components: (a) didactic, (b) gratitude writing activity, and (c) discussion/debrief. The didactic portion included a brief introduction of the concept of gratitude, including thought-provoking questions and personal examples. Participants were then asked to complete a gratitude writing activity for the duration of 20–30 min, which entailed making a list of things for which they felt grateful. These could be people, events, material goods, experiences, or personal characteristics, to name a few. After making their list, participants were asked to write a brief statement about *why* they felt grateful for each item, to prompt reflection about what meaning this brought to their life. During the debrief, participants discussed their responses in small groups, sharing their gratitude list and statements. Then all participants returned to the large group and discussed their reflections. The researcher debriefed the activity by soliciting participants’ thoughts and feelings about the activity, as well as the potential benefits of practicing gratitude on a regular basis. The workshop concluded with a discussion of how participants could continue expressing gratitude in their daily lives, and participants were provided with a Living Gratitude worksheet to take home with them. Participants were given survey questionnaires immediately following conclusion of the workshop (Time 2) and were notified they would receive a follow-up survey via e-mail in 1 month (Time 3).

### **Data Analysis**

It was determined that a minimum of 20 participants was needed to achieve the desired power of .80 (effect size = .3; critical  $F = 3.24$ ). An independent-samples  $t$  test and analysis of covariance test were used to examine group differences. To address our hypothesis, within-subjects, repeated measures analysis of variance tests were conducted for each dependent variable to examine differences over time. Where assumptions were not met, the Greenhouse-Geisser correction was used. Effect size was determined using partial eta-squared (small = .01, medium = .09, large = .25). If significance was found,

paired-samples *t* tests were used to make post hoc comparisons across time. Statistical significance was indicated by an alpha of .05. In cases of missing data, the expectation maximization method was used (Schafer, 1997). Data analysis was conducted using SPSS (Version 24).

## RESULTS

The independent-samples *t* test yielded no significant differences in baseline GAC scores between male ( $M=4.02$ ,  $SD=.91$ ) and female ( $M=3.86$ ,  $SD=.81$ ) participants,  $t(49)=.672$ ,  $p=.51$ . Similarly, the analysis of covariance revealed no significant effect by gender on GAC scores at Time 2, after controlling for GAC scores at Time 1,  $F(1, 48)=.203$ ,  $p=.65$ . Following are the results of the repeated measures analyses of variance. We found a significant time effect on state gratitude,  $F(2, 49)=5.41$ ,  $p=.006$ ,  $\eta_p^2=.10$ , with pairwise comparisons revealing a significant increase in gratitude from Time 1 ( $M=3.94$ ,  $SD=.86$ ) to Time 3 ( $M=4.32$ ,  $SD=.68$ ),  $p=.01$ , Cohen's  $d=.48$ . Changes in gratitude scores from Times 1 to 2 and Times 2 to 3 were nonsignificant but continued to increase over time. There was a significant time effect on psychological distress,  $F(2, 49)=28.46$ ,  $p<.001$ ,  $\eta_p^2=.36$ , with pairwise comparisons indicating a significant decrease from Time 1 ( $M=1.54$ ,  $SD=.51$ ) to Time 2 ( $M=1.33$ ,  $SD=.43$ ),  $p<.001$ , Cohen's  $d=-.69$ ; and Time 1 ( $M=1.54$ ,  $SD=.51$ ) to Time 3 ( $M=1.27$ ,  $SD=.38$ ),  $p<.001$ , Cohen's  $d=-1.07$ . There was no significant change in BSI-18 scores from Time 2 to Time 3. The time effect on life satisfaction appeared significant,  $F(2, 49)=3.92$ ,  $p=.03$ ,  $\eta_p^2=.07$ ; however, pairwise comparisons among time points were not significant. We did observe a significant time effect on sport satisfaction,  $F(2, 49)=3.72$ ,  $p=.03$ ,  $\eta_p^2=.07$ , with a significant increase from Time 1 ( $M=4.91$ ,  $SD=1.34$ ) to Time 2 ( $M=5.34$ ,  $SD=1.18$ ),  $p=.04$ , Cohen's  $d=.36$ . Differences between other time points were not significant. Results revealed a significant time effect on athlete burnout,  $F(2, 49)=3.85$ ,  $p=.04$ ,  $\eta_p^2=.07$ , with pairwise comparisons demonstrating a significant decrease from Time 1 ( $M=2.57$ ,  $SD=.65$ ) to Time 3 ( $M=2.35$ ,  $SD=.68$ ),  $p=.001$ , Cohen's  $d=-.55$ ; however, changes in ABQ across other time points were nonsignificant. Last, a significant time effect on perceived available support in sport was observed,  $F(2, 49)=11.90$ ,  $p<.001$ ,  $\eta_p^2=.19$ . Pairwise comparisons showed that perceived social support increased significantly from Time 1 ( $M=3.64$ ,  $SD=.90$ ) to Time 2 ( $M=4.11$ ,  $SD=.72$ ),  $p<.001$ , Cohen's  $d=.62$ ; and decreased significantly from Time 2 ( $M=4.11$ ,  $SD=.72$ ) to Time 3 ( $M=3.86$ ,  $SD=.83$ ),  $p=.02$ , Cohen's  $d=-.42$ .

## DISCUSSION

To our knowledge, this is the first study to implement a gratitude PPI with an athlete population. Results provide a greater understanding of the potential psychological and social benefits of gratitude interventions with college student-athletes. Significant differences were found in participants' levels of state gratitude, psychological distress, sport satisfaction, athlete burnout, and perceived available support in sport across time points. These findings demonstrate the importance of studying the concept of gratitude within sport and support previous research that argued for future intervention studies given the potential for positive mental health outcomes among student-athletes (Chen, 2013; Chen & Kee, 2008; Gabana et al., 2017). As expected, athletes' state gratitude continued to increase over time,

with athletes reporting significantly higher levels of gratitude 4 weeks postintervention as compared to their baseline GAC scores. Results are in accordance with previous research findings that state gratitude increases following implementation of gratitude PPIs (Emmons & McCullough, 2003; Froh et al., 2008).

Contrary to our hypothesis, post-hoc analyses did not reveal significant differences in life satisfaction across time points. It is possible that statistical power was too low to detect differences across time points in the current study. A possible explanation for this discrepancy between the significant main effect and nonsignificant post hoc effects is that the current study focused on gratitude within the sport context; therefore, athletes may not have been primed to apply gratitude beyond the athletic environment. Because Chen et al. (2015) demonstrated a positive relationship between gratitude and life satisfaction (SWLS) in an athlete sample, future studies should increase the sample size to enhance statistical power. Sport satisfaction was significantly higher immediately following the gratitude intervention; however, the significance of this effect did not last over time. Findings support previous research which suggested that cultivating gratitude in student-athletes may increase sport satisfaction (Chen, 2013; Chen & Kee, 2008; Gabana et al., 2017) but that the effects of certain gratitude interventions tend to dissipate over time (Seligman et al., 2005). It would be worthwhile to explore whether an ongoing gratitude series with athletes could produce longer lasting effects on sport satisfaction in comparison to a one-time workshop.

As expected, athletes reported significantly higher perceived social support immediately after the gratitude workshop, which supports previous research that gratitude can enhance one's ability to notice available resources (Wood et al., 2007). These scores, however, decreased significantly from Time 2 to Time 3, indicating that athletes' perceived social support returned to baseline over time. It is possible that the nature of the gratitude workshop—held in a group setting—may have served as a team-building activity. This could potentially explain the increase in perceived social support from Time 1 to Time 2, and the dissipation from Time 2 to Time 3, as participants presumably completed the Time 3 survey independently on the computer rather than in the group setting. Therefore, the social support factor may not have been as prevalent or obvious at this time. Although previous research has found that perceived social support mediated the relationship between gratitude and athlete well-being (Chen, 2013; Gabana et al., 2017), it would be interesting to examine whether the effects of gratitude on social support might be moderated by whether the gratitude PPI is administered in an individual versus a group (team) setting.

In addition to measures of well-being, we also examined indicators of ill-being. We found that athletes' psychological distress continued to decrease significantly across time points, producing a large time effect according to Cohen's guidelines. A comparable effect was observed on athletes' burnout scores, in that levels of burnout continued to decrease across time points. This is not surprising given that feeling grateful can significantly reduce burnout in occupational and academic domains (Lanham, Rye, Rimsky, & Weill, 2012). Results support existing research in which higher levels of gratitude were associated with lower levels of burnout in sport (Chen, 2013; Chen & Kee, 2008; Gabana et al., 2017). Implications for a holistic approach to athlete mental health and well-being abound, as DeFreese and Smith (2014) found that burnout in the sport context can potentially permeate other experiences (e.g., cognitive, emotional) outside of the athletic realm. Although causal inferences cannot be drawn given the lack of a control group, findings warrant further investigation to explore the effectiveness of gratitude PPIs to reduce or prevent psychological distress and burnout among student-athletes. Given recent initiatives by the NCAA to support and promote student-athlete mental health (see NCAA, 2016b), this

topic deserves attention since a number of mental and physical health benefits have been derived from gratitude PPIs in nonathletic sample populations (Wood et al., 2010).

### **Practical Implications, Limitations, and Future Directions**

Based on the results of the current study, it can be deduced that gratitude PPIs should be considered when helping athletes build the skills necessary to cope with the mental and physical demands of sport. Cultivating gratitude among student-athletes may supply a healthy coping mechanism for athletes by teaching them how to shift their perspective to what is going *well* in their life, as well as in their collegiate sport experience. Attending to positive experiences or people may reinforce Fredrickson's (2004) broaden-and-build theory, which purports that cultivating positive emotions such as gratitude has the ability to broaden one's thought-action repertoire. In this way, attending to and acknowledging benefits derived from others (i.e., practicing gratitude) can enhance felt social support, illuminate available resources, and provide options for overcoming adversity. As findings demonstrate, positive emotions such as gratitude can also build one's resources by capitalizing on available support. Research examining interpersonal gratitude postulated its ability to enhance communal strength and change the view of one's relationship (Lambert, Clark, Durtschi, Fincham, & Graham, 2010). Given the increase in perceived social support immediately following the gratitude workshop and the magnitude of the effect, a gratitude-focused team session may have the potential to improve one's view of teammates and/or coaches. This relates to previous research which found that one's trust in one's coach moderated the positive effects of gratitude on athlete self-esteem (Chen & Wu, 2014), and that team cohesion mediated the relationship between gratitude and life satisfaction (Chen et al., 2015). Expressing gratitude in the team context may foster positive interpersonal relationships among teammates, athletes, and coaches.

Our findings also have important implications for student-athlete mental health and well-being. Psychological distress was significantly reduced following the gratitude intervention and continued to decrease over time, supporting previous research that found gratitude to be associated with lower levels of negative psychological indicators (Wood et al., 2008). Given the recent focus on best practices for mental health needs of college student-athletes by the NCAA (2016b), cultivating gratitude may be an adaptive and preventative tool in promoting mental health and well-being within the collegiate sport environment. The results of the present study reinforce and extend the postulation that gratitude may be a valuable mental skill in preventing and coping with psychological distress in college student-athletes, thus adding to the student-athlete mental health literature and toolbox for applied sport psychology practitioners.

Given that the current study was the first to examine the implementation of a gratitude intervention with athletes, more research is needed to ground these findings. The major limitations of the current study were (a) small sample size and (b) absence of a control group. Future studies should increase sample size and diversity and use randomly assigned experimental and control groups when possible. In addition, future researchers may explore whether demographic differences exist (e.g., gender, class year, sport type, individual vs. team sport, team culture) for baseline levels of gratitude, as well as the effects of the gratitude PPI. These advancements would lend greater understanding to the potential benefits of cultivating gratitude within the sport context. Another limitation is that the gratitude intervention consisted of a one-time workshop and did not track participants' gratitude practice in detail over an extended period of time. Although the results partially supported our hypothesis, a more time-intensive intervention may have increased the

magnitude of the effects over time. Future researchers might consider reinforcing and monitoring continued gratitude practice through the use of online surveys, blogs, journals, or smartphone apps. Another consideration would be testing the effectiveness of different types of empirically supported gratitude interventions with college student-athletes at both the individual and group levels, such as a gratitude letter or “three good things” intervention (see Seligman et al., 2005). Davis et al. (2016) encouraged researchers to use group settings “to generate strong norms” (p. 28) and consider dosage and variety to enhance the potential effects of gratitude PPIs on mental health.

Given that this study utilized a one-time 90-min gratitude intervention, it would be worthwhile to explore whether an ongoing gratitude group series could produce long-term effects on athlete well-being. Davis et al. (2016) also suggested that exploring culturally adapted interventions could be a focus of future gratitude studies. It would be interesting to examine how gratitude interventions might be culturally adapted for the athletic population. For example, instead of making a general gratitude list, athletes might be prompted to express interpersonal gratitude to teammates at the end of each practice. Testing the effectiveness of sport-specific, culturally, or contextually adapted gratitude interventions could be beneficial, given person-activity fit has been found to moderate the effect of positive activities on well-being (Lyubomirsky & Layous, 2013). As a final consideration, future studies may consider examining student-athlete gratitude qualitatively.

## CONCLUSION

Additional testing of gratitude interventions within the sport context is warranted given the results of the present study. The nature of the threefold gratitude workshop design intentionally directed athletes’ attention to the value of cultivating gratitude, prompted them to practice gratitude through an experiential exercise, and facilitated discussion post-activity through interpersonal sharing. Overall, our findings support the idea that implementing a gratitude PPI with college student-athletes may have the potential to enhance well-being and decrease ill-being, as evidenced by increased gratitude, sport satisfaction, and perceived social support and by decreased psychological distress and athlete burnout, postintervention.

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