A Program to Reduce Stigma Toward Mental Illness and Promote Mental Health Literacy and Help-Seeking in NCAA Division I Student-Athletes

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Abstract

Student-athletes are susceptible to mental health problems that disrupt optimal functioning and well-being. Despite having many protective factors, student-athletes represent an at-risk subgroup of college students who experience mental health concerns due to the distress of balancing multiple obligations (Wieland et al., 2018). However, many student-athletes underutilize psychological services (Eisenberg, 2014). Stigma is the main barrier preventing student-athletes from seeking help, and mental health literacy (MHL) interventions addressing knowledge and beliefs about mental disorders have traditionally been used to destigmatize mental illness. This study investigated the impact of a 4-week program on stigma, MHL, and attitudes and intentions toward seeking help with 33 NCAA Division I student-athletes. The program comprised four science-based interventions—MHL, empathy, counter stereotyping, and contact—delivered face-to-face within a group setting. MHL, attitudes toward seeking help, and intentions to seek counseling improved from pre-intervention to post-intervention and to 1-month follow-up. Self-stigma reduced from pre-intervention to post-intervention.

Keywords: destigmatize, collegiate, evaluation, intervention

The prevalence of mental illness and distress among student-athletes is comparable to, and for some disorders, greater than, that of the general population (Engwell, Hunter, & Steinberg, 2004; Wolanin, Hong, Marks, Panchoo, & Gross, 2016). Student-athletes are often at an increased risk for experiencing anxiety, depression, disordered eating, substance abuse, and adjustment problems (e.g., transition, injury; Wieland, Chow, & Bird, 2018). Due to mental health problems, collegiate athletes experience a multitude of adverse consequences that impact academic, athletic, and social functioning. Despite needing treatment for mental health issues, only 10% of student-athletes who experience anxiety and depression seek professional help compared to 30% of non-athlete students (Eisenberg, 2014). Stigma has been implicated as the main barrier to student-athletes seeking mental health care (Gulliver, Griffiths, & Christensen, 2012a; Moreland, Coxe, & Yang, 2018); thus, interventions designed to reduce stigma toward people with mental illness are especially needed.

Stigma Toward Mental Illness and Professional Help-Seeking

Stigmatization means that there is a socially driven label (e.g., "not normal") associated with people who seek psychological help (Smith, 2007). This is particularly emphasized in the athletic setting (Leimer, Leon, & Shelley, 2014), as student-athletes fear that they will be perceived as "mentally weak" if others find out they are in treatment, preventing many from receiving timely and appropriate help (DeLenardo & Terrion, 2014; Lopez & Levy, 2013). Stigma accounts for 66% of the variance in mental health help-seeking attitudes in student-athletes (Wahto, Swift, & Whipple, 2016). There are three types of stigma. *Perceived public stigma* (i.e., stigmatization by others) is an individual's perception regarding stereotypes, prejudice, and discrimination held by the public toward people with mental illness (Corrigan, 2004). *Self-stigma* reflects the internalization of public stigma by incorporating others'

stereotypes and prejudices about people with mental illness into beliefs about oneself (Vogel, Wade, & Haake, 2006). *Personal stigma* represents an individual's personal attitudes toward people with mental illness (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). In sport, perceived public stigma can reflect a student-athlete's concern that coaches or teammates will view them negatively (e.g., mentally weak) for seeking psychological help (Lopez & Levy, 2013). Athletes may also fear negative consequences from others such as doubts about their ability to perform, loss of playing time, and discrimination (DeLanardo & Terrion, 2014). Student-athletes may internalize their perceptions of other's beliefs about mental illness, creating feelings of inadequacy or inferiority (i.e., self-stigma) that reduce their likelihood of seeking campus resources (Leimer et al., 2014).

Stigma toward mental illness and help-seeking can be explicit or implicit. Explicit stigma is more conscious and controllable, while implicit stigma reflects more automatic, subconscious beliefs (Greenwald & Banaji, 1995). Implicit measures such as Implicit Association Tasks (IAT; Greenwald, McGhee, & Schwartz, 1998) have the ability to capture underlying attitudes and beliefs (e.g., personal stigma) beyond explicit measures. Recent studies with college students, the general public, and student-athletes most commonly use explicit measures to assess stigma toward mental illness, which draw upon self-report questionnaires or interviews (e.g., DeLenardo & Terrion, 2014; Leimer et al., 2014; Wahto et al., 2016). Yet responses on explicit measures of personal stigma (i.e., one's attitude toward people with mental illness) may be influenced by demand characteristics, social desirability bias, dishonest reporting, or poor self-awareness of one's own attitudes or beliefs (Monteith & Pettit, 2011). A meta-analysis found weak correlations between measures of implicit and explicit stigma (Hofmann, Gawronski,

Gschwendner, Le, & Schmitt, 2005) suggesting that stigma is a complex construct that requires careful assessment. While the need for utilization of both implicit and explicit measures of stigma has been emphasized (Monteith & Pettit, 2011), to our knowledge, this method has not been employed in studies examining mental illness stigma among athletes. For example, student-athletes may be reluctant to endorse items that measure explicit personal stigma such as "mental illness is a sign of personal weakness" even if they strongly agree with such statement. Implicit measures of personal stigma, however, can detect underlying biases that student-athletes hold towards people with mental illness that they are hesitant to admit or lack awareness of.

Attitudes toward seeking professional psychological help impact one's intentions to seek counseling (Hammer, Parent, & Spiker, 2018), and both are key contributors to mental health service utilization (Moreland et al., 2018). When investigating relationships among stigma, attitudes toward counseling, intentions to seek help, and help-seeking behavior in college students, it has been shown that perceived public stigma is positively related to self-stigma, that self-stigma is negatively related to counseling attitudes, and that counseling attitudes are positively related to willingness to seek help (Vogel, Wade, & Hackler, 2007). Research on actual help-seeking behavior for mental health issues is difficult to conduct, however, the Reasoned Action Approach (Fishbein & Ajzen, 2010) proposes that actual help-seeking behavior is best predicted from an individual's intentions to seek help. Furthermore, and highly relevant to the current study, an individual's intention to seek help is predicted by their attitudes about seeking help as well as barriers (e.g., stigma) and facilitators (e.g., literacy) of help-seeking.

Destigmatization Interventions

Mental health literacy (MHL) represents an individual's "knowledge and beliefs about mental disorders which aid their recognition, management or prevention" (Jorm et al., 1997, p.

184). It generally consists of knowledge about the prevalence, signs, and symptoms of specific mental disorders; risk factors and causes of mental illness; self-help interventions; available professional help resources; how to seek mental health information, and attitudes that facilitate recognition and appropriate help-seeking. Sport-specific awareness programs have been developed to address mental health knowledge and stigma in athletes, predominantly focusing on MHL (Breslin, Shannon, Haughey, Donnelly, & Leavey, 2017). MHL interventions with athletes have been somewhat successful in improving mental health knowledge and confidence to help someone with a mental disorder (Bapat, Jorm, & Lawrence, 2009; Gulliver et al., 2012b). However, stigma and help-seeking outcomes (e.g., attitudes, intentions) are more difficult to change, as evidenced by low effect sizes. While education about mental disorders is an important step toward destigmatizing mental illness in student-athletes, if used alone it may be insufficient for decreasing stigma and improving attitudes and intentions to seek help. Targeted, structured, and systematic programs are needed to change the culture of mental health on college campuses. In addition to MHL, there are several promising intervention strategies designed to reduce stigma that have been used with non-athlete populations such as perspective-taking to enhance empathy (Galinsky & Moskowitz, 2000), counter stereotyping (Devine, Forscher, Austin, & Cox, 2012), and contact (Clement et al., 2011).

Empathy is the capacity to share and understand other's internal states, which allows us to connect with one another. Empathy-building interventions focus on either enhancing individuals' ability to *experience* empathy (i.e., experience-based) or *express* empathy to others (i.e., expression-based; Weisz & Zaki, 2017). There are three intertwined and interactive subcomponents of empathy: *mentalizing* (ability to draw inferences about another person's thoughts and feelings), *experience sharing* (vicariously experiencing another person's emotional

state), and *empathetic concern* (desire to alleviate another person's distress; Zaki & Oschsner, 2012). Interventions that target one or more of these subcomponents can increase individuals' empathy towards stigmatized groups. Experience-based empathy interventions using perspective-taking often involve imagining oneself as a stigmatized member of an outgroup—such as those who are prejudiced against or the mentally ill—and have been shown to reduce stigma towards members of these groups by facilitating a deeper understanding of their thoughts and feelings (Devine et al., 2012). According to Galinsky and Moskowitz (2000), perspective-taking improves when one has endured the same "slings and arrows as the targeted person" (p. 709). Expression-based empathy interventions teach individuals to recognize another person's internal state *and* respond appropriately (Weisz & Zaki, 2017). Such interventions focus on enhancing one's empathic displays, which helps communicate to the target that the perceiver understands and shares their suffering. Empathy-relational skills training and watching videos of difficult interactions are typically used in expression-based empathy interventions to improve emotion recognition and empathic responding (e.g., Riess, Kelley, Bailey, Dunn, & Phillips, 2012). Importantly, in order to effectively express empathy, one must first experience empathy; thus, experience- and expression-based interventions should be used in conjunction.

Counter stereotyping is an idea or image that is in opposition to a prejudiced or over simplified stereotype that is commonly held by members of a group. There are multiple stereotypes associated with mental illness and those who have mental disorders (Byrne, 2000; Townsend, 1979). Such stereotypes create an "us versus them" mentality towards people with mental illness, thus perpetuating and intensifying their stigmatization (Byrne, 2000). One intervention is to educate individuals on the stereotypes of mental illness and provide them with counter stereotypes or information that is opposite of the cultural stereotypes associated with

mental illness (Byrne, 2000; Gocłowska & Crisp, 2013). By teaching accurate information to prevent stereotypic inferences, individuals adopt an informed mindset with greater cognitive flexibility. Providing counter stereotypes helps individuals break from old schemas and create new schemas surrounding those they have previously stigmatized (Byrne, 2000; Gocłowska & Crisp, 2013). Counter stereotyping has been used to combat and reduce stereotypes, stigma, prejudice, and racial bias (Devine et al., 2012; Gocłowska & Crisp, 2013).

Contact strategies involve using direct or indirect interactions with people who have a mental illness to challenge prejudice. This strategy is based on the contact hypothesis (Allport, 1954) which posits that interpersonal contact with a person from a stigmatized group can reduce stigma and increase empathy towards that group. Video-based contact interventions have gained interest from researchers in recent years, as this type of contact delivery improves dissemination and is more cost effective (Clement et al., 2011). Video-based contact interventions have been shown to reduce mental illness stigma in healthcare students and professionals (Stubbs, 2014). Furthermore, a recent meta-analysis showed this type of intervention as an effective way of reducing mental illness stigma in adolescents and adults (Corrigan, Morris, Michaels, Rafacz, & Rusch, 2012). Video-based contact interventions highlighting former student-athletes' struggles with mental illness have been used in conjunction with educational materials to target mental health knowledge and attitudes in a sample of Division I collegiate athletes (Kern et al., 2017). Results from this study indicate that the combined contact- and education-based intervention improved knowledge about depression, increased likelihood to seek help for a personal problem, and decreased stigma. Regarding stigma, participants were more willing to accept someone who had received mental health treatment as a close friend.

Purpose and Hypotheses

Reducing stigmatization to promote help-seeking attitudes and intentions among collegiate student-athletes is important for treating the prevalence of mental illness among this population (Gulliver et al., 2012a; Moreland et al., 2018). The purpose of this study was to investigate the impact of a 4-week program designed to reduce stigma toward mental illness, enhance MHL, and improve help-seeking attitudes and intentions among NCAA Division I student-athletes. We also examined the extent to which mental health experience influenced the impact of the program on these outcomes because previous research has found that having prior education, previously receiving mental health treatment, or currently receiving mental health treatment is associated with stigma (Busby Grant, Bruce, & Batterham, 2016; Griffiths, Christensen, & Jorm, 2008; Gulliver et al., 2012b). This was the first project to incorporate four evidenced-based stigma reduction interventions (i.e., MHL, empathy, counter stereotyping, and contact) into a comprehensive program with student-athletes. This study addresses several limitations and gaps in the literature including an overreliance on education-based interventions, lack of psychometrically valid outcome measures, failure to report effect sizes for outcomes which limits clinically meaningful interpretations, and lack of follow-up assessment to determine the sustained benefits of interventions (Breslin et al., 2017), as well as failing to measure implicit stigma (Monteith & Pettit, 2011). Based on previous research (e.g., Bapat et al., 2009; Devine et al., 2012; Gocłowska & Crisp, 2013; Gulliver et al., 2012b; Kern et al., 2017; Weisz & Zaki, 2017), we hypothesized that self, personal, perceived public, and implicit stigma would decrease from pre-intervention to post-intervention and from pre-intervention to 1-month follow-up, and that the decreases at post-intervention would not diminish at 1-month follow-up. We also hypothesized that MHL, attitudes toward seeking professional psychological help, and intentions to seek counseling would increase from pre-intervention to post-intervention and from pre-

intervention to 1-month follow-up, and that the increases at post-intervention would not diminish at 1-month follow-up.

Method

Participants

An a priori power analysis was conducted using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) for a two-way repeated measures ANOVA with three measurement timepoints, α = .05, power (1-β) = .8, and effect size *f* of .25. Power analysis results reveled a minimum sample size of 28 participants. Participants included 33 student-athletes (Male = 13, Female = 20) from a single NCAA Division I institution. A majority of the participants were Freshmen (*n* = 15), but Sophomore (*n* = 11), Junior (*n* = 2), Senior (*n* = 4), and Graduate (*n* = 1) level students were also represented. Participants reported a mean age of 19.2 years (*SD* = 1.45) and identified as White (*n* = 23), African American (*n* = 3), Hispanic (*n* = 3), and Mixed (*n* = 4). Student-athletes represented various teams including Swimming (*n* = 14), Cross Country (*n* = 5), Softball (*n* = 6), Track and Field (*n* = 4), Football (*n* = 2), Baseball (*n* = 1), and Soccer (*n* = 1). A total of 13 participants (39.4%) had previously received treatment from a mental health professional, two participants (6.1%) were currently receiving treatment, and five participants (15.2%) had previously received formal education or training about mental illness in student-athletes. A Mental Health Experience variable was created by combining each participant's responses to these three questions (i.e., previously received treatment, currently receiving treatment, previously received formal education or training): 16 (48.5%) had Mental Health Experience and 17 (51.5%) did not. Twenty-three (69.7%) student-athletes attend all four sessions (7 attended 3 sessions, 3 attended 2 sessions).

Measures

Demographic information. The demographic questionnaire asked participants to report their age, gender, year in school, and sport team. Additional items asked participants if they had ever received treatment from a mental health professional, if they were currently receiving treatment from a mental health professional, and if they had received any previous formal education or training about mental health issues in student-athletes.

MHL. The Mental Health Literacy Scale (MHLS; O'Connor & Casey, 2015) is a unidimensional questionnaire with 35 items representing all attributes of MHL outlined by Jorm et al. (1997). These attributes include disorder recognition, knowledge of how to seek mental health information, knowledge of risk factors and causes, knowledge of self-treatments, knowledge of professional help available, and attitudes that promote recognition and appropriate help-seeking. Scores can range from 35-160 with higher scores indicating greater levels of MHL. Internal consistency reliability with college students has been reported as α = .84 (Gorczynski, Sims-Schouten, Hill, & Wilson, 2017). Internal consistency reliability for the current study was α = .82 (pre), α = .92 (post), and α = .91 (follow-up).

Personal and perceived public stigma. A modified version of the Depression Stigma Scale (DDS; Griffiths et al., 2004) was used to measure personal and perceived public stigma toward mental illness. The *personal stigma subscale* contains nine items measuring participants' *own* attitudes toward people with mental illness (e.g., "Depression is a sign of personal weakness"). In the modified version, the word "depression" was changed to "mental illness" in all items (e.g., "Mental illness is a sign of personal weakness"). The *perceived public stigma subscale* measured participants' beliefs regarding the attitudes and beliefs that *other people* hold toward those with mental illness. This subscale also contains nine items and the modified version changed the word "depression" to "mental illness" in all items (e.g., "Most people believe that

mental illness is a sign of personal weakness"). For both personal and perceived public stigma, participants respond to items on a 5-point Likert type-scale ranging from 0 (*Strongly disagree*) to 4 (*Strongly agree*). Scores on personal and perceived public stigma can range from 0-36 with higher scores representing stronger levels of personal and perceived public stigma, respectively. Internal consistency reliability for the personal stigma subscale was α = .76 in an adult sample (Griffiths et al., 2004). Internal consistency reliability for the current study was α = .80 (pre), α = .90 (post), and α = .88 (follow-up). Internal consistency reliability for the perceived public stigma subscale was α = .82 in a sample of adults (Griffiths et al., 2004). Internal consistency reliability for the current study was α = .86 (pre), α = .88 (post), and α = .91 (follow-up).

Self-stigma. The Self-Stigma of Seeking Help Scale (SSOSH; Vogel, Wade, & Haake, 2006) is a unidimensional, 10-item questionnaire. Items are rated on a 5-point Likert-type scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*), with higher scores representing greater self-stigma toward help seeking. An example item is "If I went to a therapist, I would be less satisfied with myself." Internal consistency reliability of the SSOSH was α = .86 to α = .90 with college students (Vogel et al., 2006). Internal consistency reliability for the current study was α = .79 (pre), α = .78 (post), and α = .84 (follow-up).

Attitudes toward counseling. The Attitudes Toward Seeking Professional Psychological Help Scale–Short Form (ATSPPHS–SF; Fischer & Farina, 1995) is a unidimensional 10-item scale: five items measure positive attitudes toward help-seeking (e.g., "If I believed I was having a mental breakdown, my first intention would be to get professional attention") and five measure negative attitudes (e.g., "A person should work out his or her own problems; getting psychological counseling would be a last resort"). Items are rated on a 4-point Likert-type scale ranging from 0 (*Disagree*) to 3 (*Agree*). Total scores range from 0-30, with higher scores

representing more positive attitudes toward seeking psychological help. Internal consistency reliability was α = .84 among college students (Fisher & Farina, 1995). Internal consistency reliability for the current study was α = .75 (pre), α = .87 (post), and α = .71 (follow-up).

Intentions to seek counseling. The Interpersonal Concerns subscale of the Intentions to Seek Counseling Inventory (ICSI; Cash, Bagley, McCown, & Weise, 1975) is unidimensional, comprised of 10 items. Participants rate the likelihood that they would seek counseling if they were experiencing various problems (e.g., depression) on a 4-point Likert type scale ranging from 1 (*Very unlikely*) to 4 (*Very likely*). Scores can range from 10-40 with higher scores representing stronger intentions to seek counseling. Vogel et al. (2007) reported an internal consistency reliability of α = .87 with undergraduate students. Internal consistency reliability for the current study was α = .86 (pre), α = .92 (post), and α = .87 (follow-up).

Implicit stigma. Utilizing software by Meade (2009), an Implicit Association Test (IAT) measured implicit stigma toward mental illness. During the IAT, participants respond to a series of items that are to be classified into four categories. Two categories represent a concept of discrimination (mentally ill people vs. physically ill people) and two represent an attribute of discrimination (dangerous vs. harmless). Participants are instructed to respond rapidly with a right-hand key press to items representing one concept and one attribute (e.g., mentally ill and dangerous), and with a left-hand key press to items from the remaining two categories (e.g., physically ill and harmless). This procedure is performed for a second task in which the key assignments for one of the pairs is switched (e.g., mentally ill and harmless, physically ill and dangerous). The IAT software produces a measure (GNB score) derived from latencies of responses to these two tasks according to scoring developed by Greenwald, Nosek, and Banaji (2003). This measure is interpreted in terms of association strength by assuming that subjects

respond more rapidly when the concept and attribute mapped onto the same response are strongly associated (e.g., physically ill and harmless) than when they are weakly associated (e.g., mentally ill and dangerous). Higher scores reflect greater stigmatization toward mental illness, with .15 = slight, .35 = moderate, and .65 = strong (Greenwald et al., 2003).

Intervention

The program was conducted within a group setting (Group 1 = 16, Group 2 = 17), consisted of four sessions (each session was 60 min), and was delivered in-person by two co-interventionists (first and third author) with substantial applied and research experience in athlete mental health. The first author completed a two-year post-doctoral fellowship in clinical psychology that focused on developing, implementing, and evaluating mental health prevention and intervention programs with student-athletes as well as conducting one-on-one mental health sessions with student-athletes under a licensed psychologist. The first author has also published over a dozen peer-reviewed journal articles on student-athlete and college student mental health. The third author has a Ph.D. in counseling psychology with a minor in sport psychology. She has 9 years' experience of individual and group mental health counseling and performance consultation with adults, college students, student-athletes, and teams. Her research focuses on athlete mental health and well-being, and she has published a dozen peer-reviewed journal articles on the topic. The intervention sessions were based on the current literature, and were designed to be engaging by incorporating psychoeducation, group discussion, experiential activities, reflection, video, modeling, and training.

Session 1: MHL. This component focused on educating and creating awareness about mental health issues that are most relevant to student-athletes. Areas included the mental health continuum ranging from thriving and resilience to severe functional impairment; causes and

consequences of mental disorders; prevalence rates, signs, and symptoms of mental disorders; barriers to help-seeking; ways to manage mental health, resources available on campus; and general tips on how to help a teammate who might be experiencing a mental health issue. Mental disorders with the highest prevalence rates in student-athletes were emphasized, including anxiety (e.g., generalized anxiety disorder, social anxiety disorder, panic disorder), depression (e.g., major depressive disorder, dysthymia), disordered eating (e.g., anorexia nervosa, bulimia nervosa, binge-eating disorder), stressor-related disorders (e.g., adjustment disorder, acute stress disorder), and substance use. For each area, we first posed a question to participants to stimulate discussion (e.g., What are some of the causes of mental disorders?) and then proceeded by presenting information, reinforcing accurate responses and elaborating on content that they did not mention. The session concluded with a group debrief (e.g., What parts of today's session stand out for you the most?, What was most surprising?).

Session 2: Empathy. This component focused on targeting empathy in two ways: perspective-taking to experience empathy toward a person with a mental health concern and how to express empathy toward a person with a mental health concern. For perspective-taking, participants listened to a 10-minute script about a student-athlete who struggled with mental health problems, experienced stigma, and sought professional help. While listening to the script, participants were prompted to take the perspective of the student-athlete in the story by paying attention to their internal thoughts and feelings. A worksheet was provided for participants to individually take notes (e.g., How do you think this student-athlete was feeling?), followed by a group debrief. Worksheets were collected after the group debrief and all participants were found to have fully completed it. The second half of this session focused on how to provide empathy, including characteristics of empathy (e.g., connecting with the emotion that someone is

experiencing) and empathy skills (e.g., reflecting feeling, validating). To complement this information, a video was shown that discusses the components of empathy and how empathy is different than sympathy. Further, participants learned how to have a difficult conversation with a teammate or peer who might be experiencing a mental health concern. To this end, participants first watched and processed (group debrief) a video showing a student with a mental health issue interacting with her roommate who has recently noticed some signs and symptoms and is in a helper role. Next, the co-interventionists modeled a similar conversation with one interventionist playing the helper and the other playing a distressed student-athlete. Finally, participants were provided the opportunity via role play to practice being in a helper role to utilize empathy skills. A group debrief followed the role play activity (e.g., What was it like to be the helper?).

Session 3: Counter stereotyping. In this component, participants were exposed to information that contradicts common stereotypes, myths, and misconceptions about mental illness in student-athletes. Participants were divided into small groups for this session. For each stereotype/misconception, (a) a statement about mental health was presented, (b) in small groups participants discussed whether the statement was true or false *and* were instructed to provide a reason to support their answer, (c) answers and reasons were shared as a large group, and (d) the interventionists presented content relevant to the statement, particularly information that was counter. Eight statements were used for this activity including "Only athletes in aesthetic and lean sports have eating disorders" and "Athletes who are struggling with mental health concerns are not mentally tough." In addition to these eight statements, the session concluded by presenting other common stereotypes such as "People with mental illness can snap out of it" and "Mental illness is not a real medical problem." The session concluded with a group debrief (e.g., How do stereotypes about mental illness impact help-seeking?).

Session 4: Contact. This component involved a video depicting a former student-athlete's struggle with mental illness throughout her collegiate and professional career. A one-hour documentary film told the story of Chamique Holdsclaw's experience with mental illness including obstacles, impact on functioning, help-seeking process, and persistence in the face of challenges. A worksheet was distributed for participants to take notes during the video. The session concluded with a group debrief (e.g., How has the film changed your thinking about mental health and mental illness? How did shame about her illness affect Chamique's ability to seek out and get help at different points in her journey?).

Procedure

Following university institutional review board approval, participant recruitment, informed consent, and pre-assessment data collection were initiated. A variety of recruitment methods were used including announcing the study at athletics department events, emailing coaches, posting and distributing flyers, an email that went to all student-athletes, and snowball sampling. The study design involved pre-, post-, and 1-month follow-up assessment. Informed consent and all assessments were performed by a research assistant one-on-one with each participant. At pre-assessment, participants completed (a) demographic questionnaire, (b) all paper and pencil study measures (presented in random order), and (c) IAT. Post-assessment included the same measures as pre-assessment (excluding the demographic questionnaire), *and* a Program Evaluation adapted from the Client Satisfaction Questionnaire (CSQ-8; Attkisson & Greenfield, 1994) in which participants rated the overall effectiveness of the program from 1 (*ineffective*) to 5 (*effective*), the quality of the program from 1 (*poor*) to 4 (*excellent*), and satisfaction with the program from 1 (*quite dissatisfied*) to 4 (*very satisfied*). Follow-up assessment was administered 1-month after post-assessment.

The two interventionists were joined by a research assistant for organizational purposes. It was comprised of weekly 1-hour sessions over four consecutive weeks occurring on the same day and time each week. Each session followed a detailed timeline and protocol to ensure standardization and included a PowerPoint and worksheets (if applicable). At the end of each session, participants completed a Session Evaluation, which included an item assessing the overall effectiveness of the session from 1 (*ineffective*) to 5 (*very effective*). Participants were incentivized by food and beverages at each session and a $50 gift card following completion of the study after 1-month follow-up assessment was completed.

Analysis

Descriptive statistics were calculated for the seven primary variables of interest (MHL, self-stigma, personal stigma, perceived public stigma, implicit stigma, attitudes toward seeking professional psychological help, and intentions to seek counseling) at pre-intervention, post-intervention, and 1-month follow-up. In addition, descriptive statistics were calculated for the 3-item program evaluation and for the 1-item effectiveness rating of each session. A multivariate analysis of variance (MANOVA) was conducted to examine baseline differences between Group 1 (n = 16) and Group 2 (n = 17) on the seven primary variables of interest. In addition, a MANOVA was conducted to examine baseline differences between those who had mental health experience (n = 16) and those who did not (n = 17) on the seven primary variables of interest. Two-way repeated measures analysis of variance (RM-ANOVAs) tests between those who had mental health experience and those who did not were conducted for MHL, self-stigma, personal stigma, perceived public stigma, implicit stigma, attitudes toward seeking professional psychological help, and intentions to seek counseling using pre-intervention, post-intervention,

and 1-month follow-up data. Effect size using η_p^2 is determined as small (.01), medium (.09), and large (.25).

Results

Preliminary Analysis

A MANOVA revealed no significant baseline differences between Group 1 and 2 on the seven primary variables of interest, Wilks' $\lambda = .71$, $F(7, 25) = 1.45$, $p = .23$. Lack of differences between groups provided justification to combine Group 1 and 2 for primary analysis. A MANOVA revealed no significant baseline differences between those who had mental health experience and those who did not on the seven primary variables of interest, Wilks' $\lambda = .66$, $F(7, 25) = 1.85$, $p = .12$.

Primary Analysis

Table 1 presents the means and standard deviations for pre-intervention, post-intervention, and 1-month follow-up outcome measures.

MHL. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = 2.03$, $p = .14$, $\eta_p^2 = .06$. However, the time effect revealed that mean scores for MHL differed statistically significantly between time points, $F(2, 62) = 20.14$, $p < .0001$, $\eta_p^2 = .39$ (large effect size). Post hoc tests using the Bonferroni correction revealed a statistically significant increase in MHL from pre-intervention to post-intervention ($p < .0001$) and from pre-intervention to 1-month follow-up ($p = .001$). Importantly, the increase in MHL from pre-intervention to post-intervention did not diminish at 1-month follow-up, as evidenced by the non-statistically significant change from post-intervention to 1-month follow-up ($p = .16$).

Self-stigma of seeking help. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = 1.07$, $p = .35$, $\eta_p^2 = .03$. However, the time effect revealed that

mean scores for self-stigma differed statistically significantly between time points, $F(2, 62) = 6.98$, $p = .002$, $\eta_p^2 = .18$ (medium to large effect size). Post hoc tests using the Bonferroni correction revealed a statistically significant decrease in self-stigma from pre-intervention to post-intervention ($p = .003$), and the decrease from pre-intervention to 1-month follow-up approached statistical significance ($p = .06$). Importantly, the decrease in self-stigma from pre-intervention to post-intervention did not diminish at 1-month follow-up, as evidenced by the non-statistically significant change from post-intervention to 1-month follow-up ($p = .99$).

Personal stigma. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = .49$, $p = .62$, $\eta_p^2 = .02$. The time effect revealed that mean scores for personal stigma did not differ statistically significantly between time points, $F(2, 62) = 2.10$, $p = .13$, $\eta_p^2 = .06$.

Public stigma. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = .43$, $p = .66$, $\eta_p^2 = .01$. The time effect revealed that mean scores for public stigma did not differ statistically significantly between time points, $F(2, 62) = 2.21$, $p = .12$, $\eta_p^2 = .07$.

Implicit stigma. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = 1.28$, $p = .29$, $\eta_p^2 = .04$. The time effect revealed that mean scores for implicit stigma did not differ statistically significantly between time points, $F(2, 62) = .40$, $p = 0.67$, $\eta_p^2 = .01$.

Attitudes toward seeking professional psychological help. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = .44$, $p = .65$, $\eta_p^2 = .01$. However, the time effect revealed that mean scores for attitudes toward seeking help differed statistically significantly between time points, $F(2, 62) = 9.30$, $p < .0001$, $\eta_p^2 = .23$ (medium to large effect

size). Post hoc tests using the Bonferroni correction revealed a statistically significant increase in attitudes toward seeking help from pre-intervention to post-intervention (p = .002) and from pre-intervention to 1-month follow-up (p = .02). The increase in attitudes toward seeking help from pre-intervention to post-intervention did not diminish at 1-month follow-up, as evidenced by the non-statistically significant change from post-intervention to 1-month follow-up (p = .44).

Intentions to seeking counseling. A two-way RM-ANOVA revealed a non-significant time x group interaction, $F(2, 62) = .39$, $p = .68$, $\eta_p^2 = .01$. However, the time effect revealed that mean scores for intentions to seek counseling differed statistically significantly between time points, $F(2, 62) = 5.58$, $p < .01$, $\eta_p^2 = .15$ (medium to large effect size). Post hoc tests using the Bonferroni correction revealed a statistically significant increase from pre-intervention to post-intervention (p = .02) and from pre-intervention to 1-month follow-up (p = .02). The increase in intentions to seeking counseling from pre-intervention to post-intervention did not diminish at 1-month follow-up, as evidenced by the non-statistically significant change from post-intervention to 1-month follow-up (p = .99).

Program evaluation. At the conclusion of the program, student-athletes rated the overall effectiveness of the program from 1 (*ineffective*) to 5 (*effective*), the quality of the program from 1 (*poor*) to 4 (*excellent*), and satisfaction with the program from 1 (*quite dissatisfied*) to 4 (*very satisfied*). Results revealed Overall Effectiveness (M = 4.55, SD = .56), Quality (M = 3.79, SD = .42), and Satisfaction (M = 3.73, SD = .52). Overall, 97% of student-athletes rated the program as effective to very effective, 100% rated the quality of the program as good to excellent, and 97% reported that they were mostly to very satisfied with the program.

Session evaluation. Attendance for Session 1 was n = 32, Session 2 was n = 30, Session 3 was n = 27, and Session 4 was n = 30. At the conclusion of each intervention session, student-

athletes rated the overall effectiveness of the session from 1 (*ineffective*) to 5 (*very effective*). Results revealed Session 1 MHL (M = 4.25 , SD = .67), Session 2 Empathy (M = 4.62, SD = .56), Session 3 Counter Stereotyping (M = 4.41, SD = .69), and Session 4 Contact (M = 4.73, SD = .52). Student-athletes who reported each session as effective to very effective was: Session 1 = 87.5%, Session 2 = 96.5%, Session 3 = 96.2%, and session 4 = 96.7%.

Discussion

This program was the first to incorporate four evidenced-based destigmatization interventions into a single program with the aim of reducing stigma toward mental illness, promoting MHL, and improving help-seeking attitudes and intentions among collegiate student-athletes. As hypothesized, MHL, self-stigma, attitudes toward seeking professional psychological help, and intentions to seek counseling improved from pre- to post-intervention. In addition, MHL, attitudes toward seeking professional psychological help, and intentions to seek counseling improved from pre-intervention to 1-month follow-up, and the improvements made from pre- to post-intervention did not diminish at 1-month follow-up. Importantly, the positive impact of the program was not influenced by mental health experience of the participants which means that the improvements in MHL, self-stigma, attitudes toward seeking help, and intentions to seek counseling were similar between those who had mental health experience (i.e., previously received treatment, currently receiving treatment, previously received formal education or training) and those who did not.

The program was successful in enhancing student-athletes' MHL. This finding is important due to a lack of MHL being identified as a barrier to help-seeking among 16-23 year old elite athletes (Gulliver et al., 2012a). Research examining programs that target MHL in athletic populations has found increases in knowledge of mental disorders and improvements in

attitudes toward those with mental illness (Bapat et al., 2009; Kern et al., 2017). Our findings are consistent with Kern et al. (2017) who found that a 1-hour, in-person contact- and education-based group intervention with NCAA Division I athletes resulted in increased knowledge toward depression from pre- to post-intervention; and Bapat et al. (2009) who found that a 3-session program improved knowledge about mental disorders in a mixture of youth club coaches and leaders. Since neither study administered a follow-up assessment, our findings add to the literature by demonstrating not only strong improvements in MHL from pre-intervention to post-intervention, but also MHL scores at 1-month follow-up that were significantly higher than pre-intervention scores.

A meta-analysis revealed that MHL programs were most successful when they were structured, tailored to specific populations (e.g., athletes), incorporated activities and experiential learning, and delivered evidence-based content (Brijnath, Protheroe, Mahtani, & Antoniades, 2016). Since our program met all these criteria, it is likely that the combination of the four empirically supported interventions impacted MHL. Session 1 was specifically geared toward MHL and directly targeted various aspects of the MHL measure, including disorder recognition, how to seek mental health information, risk factors and causes, self-treatments, professional help resources, and attitudes that promote recognition and appropriate help-seeking. The subsequent three sessions also included components that likely contributed to increased MHL. For example, experiencing (via perspective-taking) and expressing empathy exposed participants to specific information regarding professional help available and targeted attitudes that promote recognition and appropriate help-seeking. Disseminating information to debunk common myths and stereotypes about mental illness in the counter stereotyping session (e.g., “Only athletes in aesthetic and lean sports have eating disorders”) likely increased disorder recognition and

knowledge of risk factors and causes. Finally, the video documentary in the contact session contained a substantial amount of information about mental illness and treatment.

Self-stigma has rarely been examined as an outcome in destigmatization intervention research with athletes and non-athletes (Griffiths, Carron-Arthur, Parsons, & Reid, 2014) which is surprising considering that it is the most consistent predictor of mental health help-seeking (Clement et al., 2015). Interventions designed to reduce self-stigma have commonly employed cognitive or cognitive behavioral therapy but have not found significant effects (Griffiths et al., 2014). In an unpublished doctoral dissertation, Ackerman (2011) found that a single session psychoeducational workshop reduced self-stigma toward seeking psychological help from pre-intervention to post-intervention, but not from pre-intervention to 6-week follow-up. Our findings were similar, such that there was a reduction in self-stigma from pre-intervention to post-intervention and the reduction from post-intervention to 1-month follow-up approached statistical significance. Self-stigma reflects feelings of inadequacy, embarrassment, and inferiority if one were to seek or receive professional psychological help. Through the program, these feelings were likely reduced through *normalizing* by highlighting prevalence rates of mental disorders and that student-athletes seek help for a multitude of issues, *perspective-taking* to better understand the internal thoughts and feelings of a person who is struggling with mental health issues, *combating negative stereotypes* that athletes with mental health concerns lack mental toughness, and by *hearing a story* about an elite professional athlete whose shame prevented initially prevented her from seeking the help she needed. In general, our finding that self-stigma was decreased from the program is consistent with research showing that the combination of instruction, discussion, and contact produces greater stigma reduction toward mental illness than formal lectures (Corrigan et al., 2012).

Results revealed that the program greatly improved attitudes toward seeking and receiving professional psychological help and likelihood of seeking counseling for personal or emotional problems. This is notable because attitudes toward counseling positively predict intentions to seek help (Vogel et al., 2007), while help-seeking intentions have been acknowledged as one of the strongest predictors of help-seeking behavior (Fishbein & Ajzen, 2010). Improvements in attitudes and intentions may have resulted from the reduction of self-stigma (Vogel et al., 2007) and increase in MHL (Taylor-Rodgers & Batterham, 2014). Prior research has produced mixed results regarding the extent to which interventions can improve attitudes and intentions toward seeking psychological help in student-athletes and college students. Various 2-week web-based interventions, including MHL and destigmatization conditions, failed to improve mental health help-seeking attitudes and intentions in athletes (Gulliver et al., 2012b). Kern et al. (2017) found that a combined contact- and education-based intervention increased likelihood of seeking help for a mental health problem with NCAA Division I student-athletes, with a small to medium effect size (Kern et al., 2017). Kosyluk et al. (2016) found that *both* 20-min contact- and education-based interventions delivered in-person within a group setting improved attitudes towards treatment-seeking and intentions to seek treatment from formal sources among college students. Both Kern et al. (2017) and Kosyluk et al. (2016) found small effect sizes and neither included a follow-up assessment.

Our findings suggest that in-depth, multi-week programs that are interactive and incorporate experiential learning and substantial group processing can be beneficial in improving attitudes and intentions toward seeking professional help. The MHL session targeted attitudes and intentions by creating awareness that people seek help for a variety of emotional and personal problems (not just for severe mental illness) and that mental health issues can impact

academic, athletic, and social functioning. The perspective-taking activity in the empathy session highlighted how seeking help and receiving treatment alleviates mental illness symptoms and improves well-being. The counter stereotyping session reinforced that talking about one's mental health concerns with a professional is beneficial and that avoidance strategies negatively impact well-being in the long term. This session also combated stereotypes that prevent help-seeking such as people with mental illness can snap out it and athletes with mental illness can solve it on their own. The contact session presented an example of a college and professional athlete whose story demonstrated the benefits of counseling to help solidify more positive attitudes and intentions toward seeking and receiving professional treatment.

This was the first study to investigate implicit stigma toward mental illness with athletes. We found that the program had no impact on implicit stigma. This is likely due to the very low pre-intervention scores on this measure (M = 0.10, SD = .34) reflecting *slight* stigmatization. Few participants (n = 8, 24.2%) had implicit stigma scores between .35 (moderate) and .65 (strong). Previous research with non-athlete populations have found differences between explicit (i.e., self-report) and implicit (i.e., IAT) stigma with a weak correlation between measures (Hofmann et al., 2005; Monteith & Pettit, 2011). We found a similar pattern at pre-intervention between implicit stigma and explicit measures of self- (r = - .08), personal (r = -.02), and perceived public (r = .09) stigma. Future studies with athletes should measure both explicit and implicit stigma, as they clearly capture different aspects of stigmatization.

Neither personal nor perceived public stigma significantly decreased from the program, though effect sizes were small to medium. Griffiths et al. (2004) found that 5-week web-based depression literacy and cognitive-behavioral interventions reduced personal stigma among 525 adults who screened positive for depression, although effects were small. Kern et al. (2017)

found that a 1-hour combined contact- and education-based intervention reduced personal stigma toward a close friend (small effect size; d = .20) but not toward a teammate among 626 NCAA Division I student-athletes. A meta-analysis found that interventions targeting personal stigma yielded significant yet small reductions (Griffiths et al., 2014). Personal stigma is clearly difficult to change so longer, and more targeted interventions may be needed such as prolonged in-person contact with someone who has mental illness in conjunction with interventions used in the current study (Griffiths et al., 2014). As for perceived public stigma, our results are consistent with previous research that found no effect (e.g., Kosyluk et al., 2016). Interventions that incorporate cognitive-behavioral skills training appear to be efficacious in reducing perceived public stigma (Griffiths et al., 2004) or perhaps directly targeting an individual's belief about how others view people with mental illness (Kosyluk et al., 2016).

While the current study has several strengths, there are some limitations that should be noted. First, no control group was used which prevents drawing definitive conclusions about the efficacy of the program. It is unknown how student-athletes who participated in our program compare to student-athletes who receive nothing or an alternative destigmatization or mental health-related intervention (i.e., treatment as usual) on the primary outcomes. While not a substitute for a control group, we aimed to improve the rigor of the study by examining the extent to which mental health experience influenced the impact of the program on the primary outcomes, which has not been done in previous destigmatization intervention research with athletes. The magnitude of the effect sizes for MHL, self-stigma, and attitudes and intentions toward seeking professional help, irrespective of whether the student-athlete had mental health experience or did not prior to entering the program, are certainly encouraging. Self-selection bias may also be a possible limitation of the study. Although we used multiple recruitment strategies,

student-athletes who volunteered to participate in the study may have been more interested in and committed to learning about mental health issues that impact student-athletes. Future research should consider targeting those with higher stigma for intervention, as these are likely the student-athletes most in need of programming. Lastly, the participants were from a single NCAA Division I institution, which limits the generalizability of the findings. Despite the program being designed in a way to ease dissemination to other athletics departments, a larger sample with student-athletes from a variety of institutions and division levels is necessary to demonstrate the effectiveness of the program. Lastly, future implementation of the program may be improved by including in-between session exercises so that participants can continue to practice and learn the material.

In conclusion, our program represents a promising psychoeducational and experiential training resource to promote a culture that supports the mental health and well-being of student-athletes. Findings suggest the program has positive implications for future help-seeking behavior, as shown by the reduction in self-stigma and improvements in MHL, attitudes toward seeking professional psychological help, and intentions to seek counseling, irrespective of whether the student-athlete had mental health experience or did not prior to entering the program. Furthermore, program evaluation results revealed high ratings for overall effectiveness, quality, and satisfaction, while session evaluations demonstrated that athlete participants found all four sessions to be effective. Ultimately, findings from this study contribute new insights on best practices for reducing stigma and increasing help-seeking attitudes and intentions among student-athletes, a population known to be one of the most susceptible to mental illness, yet also one of the most resistant to psychological services.

Table 1

Pre, Post, and 1-Month Follow-up Outcome Data (N = 33)

Measure	**Pre-Program Mean (SD)**	**Post-Program Mean (SD)**	**Follow-up Mean (SD)**
Mental Health Literacy	123.36 (11.12)	133.45 (14.66)[a]	130.97 (15.08)[bc]
Self-Stigma of Seeking Help	25.42 (5.28)	22.33 (5.49)[a]	23.06 (5.63)[c]
Personal Stigma	9.45 (5.06)	7.91 (6.54)	7.79 (5.37)
Implicit Stigma	0.10 (0.34)	0.15 (0.39)	0.14 (0.35)
Perceived Public Stigma	20.36 (6.47)	23.03 (6.26)	20.73 (7.84)
Attitudes Toward Seeking Help	27.45 (4.58)	30.21 (5.07)[a]	29.33 (4.17)[bc]
Intentions to Seek Counseling	21.76 (5.28)	25.33 (7.09)[a]	24.27 (5.99)[bc]

[a] statistically significant change from pre-intervention to post-intervention.
[b] statistically significant change from pre-intervention to 1-month follow-up.
[c] non-statistically significant change from post-intervention to 1-month follow-up, thus indicating that the improvement made from pre-intervention to post-intervention did not diminish at follow-up.

Note: Mental Health Literacy can range from 35-160, where higher scores indicate greater literacy; Self-Stigma of Seeking Help from 10-50, Personal Stigma and Perceived Public Stigma from 0-36, where higher scores indicate more stigmatizing attitudes toward mental illness; Implicit Stigma from -2 to 2 where higher scores indicate more implicit stigmatizing attitudes toward mental illness; and Attitudes Toward Seeking Professional Psychological Help and Intentions to Seek Counseling from 10-40, where higher scores indicate more favorable attitudes and stronger intentions, respectively.

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