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Mental health literacy: The knowledge of mental health literacy and help-seeking attitudes among NCAA Division I student-athletes and non-athletes

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MENTAL HEALTH LITERACY: THE KNOWLEDGE OF MENTAL HEALTH
LITERACY AND HELP-SEEKING ATTITUDES AMONG NCAA DIVISION I
STUDENT-ATHLETES AND NON-ATHLETES

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Master of Science

Danielle E. Schuck
University of Northern Iowa
July 2018

ABSTRACT

Context: By the age of 24 years, diagnosable mental disorders begin to develop in one out of four Americans (Kaier et al., 2015). Young people also have deficits in knowledge about mental health literacy. This deficiency is one reason why individuals lack the ability to recognize mental illness and the appropriate measures needed to take to seek professional help (Kelly et al., 2007). This study investigates the mental health literacy and help-seeking attitudes of NCAA Division I student-athletes and non-athletes.

Objective: Investigate the knowledge of mental health literacy and help-seeking attitudes of collegiate student-athletes and non-athletes. Design: Non-experimental, correlation and descriptive design. Participants: 444 participants (227 males, 212 females, 5 other) with a mean age of 20.07 ($SD = 2.53$). Methods: Participants were recruited during designated class times or team meetings. Participants completed a one-time survey consisting of a demographics form, Mental Health Literacy Scale (MHLS), and Attitudes Towards Seeking Professional Psychological Help-Short Form (ATSPPH-SF). Main Outcome Measures: Mental health literacy was measured by the MHLS. Attitudes towards help-seeking were measured by the ATSPPH-SF. Results: A MANOVA revealed significant differences by gender and mental health literacy ($p < .0001$). An ANOVA revealed significant differences by gender and help-seeking attitudes ($p < .0001$). A MANOVA revealed significant differences by gender and athletic status on mental health literacy ($p < .0001$). An ANOVA revealed significant differences gender and athletic status on help-seeking attitudes ($p < .0001$). A MANOVA revealed significant differences on previous mental health history and mental health literacy ($p <$

.0001). An ANOVA revealed significant differences on previous mental health history and help-seeking attitudes ($p < .0001$). Conclusion: Student-athletes and non-athletes had above average levels of mental health literacy. The results of the study found significant differences on the MHLS and ATSPPH-SF based on gender, gender and athletic status, and previous mental health history. The results from this study can aid clinicians in the development of educational programs on mental illness for college students and student-athletes as well as implementing more extensive questionnaires regarding mental health on pre-participation exams and throughout the rehabilitation process.

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This Study by: Danielle E. Schuck

Entitled: MENTAL HEALTH LITERACY: THE KNOWLEDGE OF MENTAL
HEALTH LITERACY AND HELP-SEEKING ATTITUDES AMONG NCAA
DIVISION I STUDENT-ATHLETES AND NON-ATHLETES

has been approved as meeting the thesis requirement for the
Degree of Master of Science in Athletic Training

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DEDICATION

I would like to dedicate this thesis to my family: Mom, Dad, and Kaitlyn. Thank you for all the unending love and support you have given me as I ventured far from home to chase my goals and further my education.

ACKNOWLEDGEMENTS

I would like to express a special thanks to Dr. Peter Neibert for serving as my thesis committee chair. I am grateful for the time, guidance, and support you have given me during this process. I would also like to extend a thank you to the other members of my committee; Dr. Kelli Snyder and Dr. Windee Weiss for the help and support given throughout this process as well.

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INTRODUCTION

For young adults (18-25 years old), this period of life brings about new challenges and opportunities, such as pursuing a higher education, seeking employment, and developing personal and professional relationships (Blanco et al., 2008). Specifically, for individuals attending college, this is a time when they experience new life stressors, such as moving away from family, difficulty prioritizing and managing time, peer pressure, and academic pressures that many view as normal (Moreland, Coxe, & Yang, 2017). College students may not understand how to appropriately deal with these stressors, which could result in the misuse of alcohol and drugs, suicidal thoughts, and development of mental disorders (Blanco et al., 2008; Wu, Pilowsky, Schlenger, & Hasin, 2007).

Mental health disorders, such as depression and anxiety, are high among young adults yet this population fails to recognize the problem. By the age of 24 years, diagnosable mental disorders begin to develop in one out of four Americans (Kaier, Cromer, Johnson, Strunk, & Davis, 2015). Young adults experience major life changes that can ultimately lead to serious long-term implications on the personal, social, physical, and emotional aspects of their lives (Loureiro et al., 2013). College students may believe they are not suffering from a mental illness and do not actively seek treatment. Adults and young people alike have deficits in knowledge about mental health literacy (Kelly, Jorm, & Wright, 2007). This deficiency is one reason why individuals lack the ability to recognize mental illness and the appropriate measures needed to take to

seek professional help (Kelly et al., 2007). Knowledge and attitudes about mental illness are major factors that influence one to seek help (Eisenberg, Speer, & Hunt, 2012).

Mental health literacy (MHL) is the knowledge and attitudes that help aid recognition, management, and prevention of mental health issues (O'Connor & Casey, 2015). Components of mental health literacy include: ability to recognize disorders, facilitate help-seeking, knowledge of help and treatments, knowledge of how to support others, and knowledge on how to prevent mental disorders (Jung, von Sternberg, & Davis, 2016; Loureiro et al., 2013). Individuals who have higher MHL are more likely to recognize mental illness and identify appropriate treatment resources. Individuals with lower MHL are more likely to terminate early mental health treatment and use alcohol and drugs as inappropriate coping methods (Jung et al., 2016).

The more knowledge an individual has about mental illness, the less likely they will agree with stigmatizing beliefs or negative attitudes (Kaier et al., 2015). College students may underutilize help-seeking methods due to the stigma that surrounds mental illness. Stigma is one of the primary reasons for not seeking appropriate treatment (Kaier et al., 2015). Stigma can be categorized as either public or personal. Public stigma may prevent an individual from seeking help due others' perceptions and negative judgements. Personal stigma is an individual's own beliefs about mental illness.

The stigma surrounding mental health illness could be a factor as to why college students do not properly utilize on-campus counseling services or seek professional help (Kosyluk et al., 2016). Online-surveys conducted among 14,000 college students across 26 campuses in the United States found one in three students with an apparent mental

health problem received mental health treatment in the previous year, while only one in five students were currently receiving treatment (Eisenberg, Hunt, Speer, & Zivin, 2011). Other reasons for not seeking help include: poor mental health literacy, attitudes and personal characteristics, and practical barriers (Gulliver, Griffiths, & Christensen, 2012). Another reason for not actively seeking help is the individual does not perceive that they need help (Kim, Saw, & Zane, 2015). Individuals who do not seek or delay in seeking help could have long-term health complications (Loureiro et al., 2013). Factors that increase help-seeking behaviors include positive past experiences, social support, and encouragement from others (Gulliver et al., 2012).

College student-athletes are a unique population who are just as susceptible to mental health issues as the general population (Sebbens, Hassmann, Crisp, & Wensley, 2016). Gulliver et al. (2012) found elite athletes experienced symptoms of mental health that were comparable to the general population. College students who are also athletes must deal with high levels of physical and mental demands within their sport. Athletes often push their body past its limit and do not take the time to properly recover (Kerr, DeFreese, & Marshall, 2014). Student-athletes with depression and anxiety are at an elevated risk for injury. The psychological response to injury can exacerbate already existing depression or anxiety in a student-athlete (National Collegiate Athletic Association Sport Science Institute, 2016). This population may undergo sports-related stressors such as injury, burnout, sport travel, missed time in the classroom, disordered eating, and increased time demands. Because of the demand of college academics and the responsibilities of collegiate sports, college student-athletes are vulnerable to mental

health disorders and are also at risk for developing clinical or subclinical eating disorders, substance abuse, sleep disturbances, suicidal thoughts, and mood disorders (Moreland et al., 2017).

Depression and anxiety symptoms have been the primary focus on studies related to college students and college student-athletes. Storch, Storch, Killiany, and Roberti (2005) were the first to compare collegiate student-athletes and their non-athlete peers on depression symptoms, social anxiety, and social support. This study conducted was one of the first to suggest gender differences among collegiate athletes on depression symptoms and social anxiety. Results found female athletes had elevated levels of depression symptoms and social support and perceived to have less social support than male athletes and their non-athlete peers. Similar results on gender differences were found by Yang et al. (2007) who investigated the prevalence of depression symptoms among a sample of collegiate student-athletes. Authors found female athletes were more likely to experience symptoms of depression than male athletes. A study by Wolanin, Hong, Marks, Panchoo, & Gross (2016) also found significant gender differences on depression symptoms among a sample of NCAA I student-athletes. Female student-athletes had a higher prevalence of depression symptoms than male student-athletes.

Participation in collegiate athletics and its effects on physical and mental health has become a prevalent topic in the world of research (Proctor & Boan-Lenzo, 2010). Proctor and Boan-Lenzo (2010) investigated the differences in depression symptoms between male athletes and male non-athletes. Results from this study reported male non-athletes to have higher rates of depression than male athletes suggesting athletic

participation may positively benefit mental health. Being involved with a sport can provide built-in social support and an outlet to relieve stress (Proctor & Boan-Lenzo, 2010). Collegiate student-athletes are provided with access to medical care, counseling, and academic assistance that otherwise may not be available to their non-athlete peers. Majority of studies have focused on depression and anxiety symptoms of college students and college student-athletes. Data is limited on the knowledge of mental health and attitudes that help aid recognition, management, and prevention of mental health issues of college students and college student-athletes. Therefore, the purpose of this study was to compare the mental health literacy and help-seeking attitudes of undergraduate student-athletes and their non-athletic peers.

METHODS

Research Design

This study was a non-experimental, correlation and descriptive design. Participants completed a demographics form which included three questions about previous mental health history, a Mental Health Literacy Scale, and a 10-item Attitudes Towards Seeking Professional Psychological Help Scale-Short Form.

Research Participants

A total of 444 male ($n = 227$), female ($n = 212$), and other ($n = 5$), undergraduate student-athletes ($n = 225$) and non-athletes ($n = 219$) from a Midwestern NCAA Division I university participated in this study. Participants ranged in age from 18 to 25 years old ($M = 20.07$, $SD = 2.54$). Eighty-two percent of participants described themselves as Caucasian, 5.9% as African American, 4.5% as Biracial, 2.9% as Asian/Asian American, 1.8% as Hispanic or Latino, .5% as Arab/Middle Eastern, and .5% as “Other.” Ten percent of participants indicated being diagnosed with a mental illness in their lifetime, 20.3% indicated receiving mental health treatment in their lifetime, and 29.1% indicated having an immediate family member (e.g. parent or sibling) diagnosed with a mental illness. Student-athletes from wrestling ($n = 32$), women’s swim and dive ($n = 24$), men’s and women’s track and field ($n = 46$), women’s and men’s golf ($n = 20$), softball ($n = 15$), football ($n = 64$), women’s soccer ($n = 20$), and men’s basketball ($n = 1$) were recruited for participation. Non-athletes were recruited from the following departments: Applied Human Services; Kinesiology, Applied Health, and Human Services; Marketing; Sociology, Anthropology, and Criminology; Technology; Social Work. Participants were

not excluded based on ethnic, racial, religious, and cultural backgrounds. Undergraduate athletic training students were not invited for participation due to student-athletes not being able to complete this degree.

Instruments

Demographic/Previous Mental Health History Form

Participants completed a demographics form which included gender, age, academic year, academic major, and ethnicity/race. Participants were asked to provide information pertaining to previous mental health history. Indicating “yes” or “no,” participants were asked three questions about previous mental health history: (1) “In your lifetime, have you ever been diagnosed with a mental illness?” (2) “In your lifetime, have you ever received treatment for a mental health concern? (e.g., counseling, medication, etc.)” and (3) “Do you have an immediate family member (e.g., parent or sibling) who has been diagnosed with a mental illness?” Participants were asked to indicate if they were a student-athlete at the university and what NCAA sport they were a member of (Appendix C2).

Mental Health Literacy Scale (MHLS)

A 35-item questionnaire was used to assess the ability to recognize disorders, knowledge of where to seek information, knowledge of risk factors and causes, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition or appropriate help-seeking behavior (O’Connor & Casey, 2015; Table 1). For example, a participant would be asked “To what extent do you think it is likely that personality disorders are a category of mental illness.” Participants’ response

options range on a 4-point Likert Scale from very unlikely (1) to very likely (4). A participant would also be asked, “I am confident that I know where to see information about mental illness.” Participants’ response options range on a 5-point Likert Scale from strongly disagree (1) to strongly agree (5), or definitely unwilling (1) to definitely willing (5). Total score is produced by summing all items with a minimum score of 35 to a maximum score of 160 (Appendix C3). The MHLS had an alpha level of 0.87 and two-week test-retest reliability of 0.80 among a community sample (O’Connor & Casey, 2015). The mean score among the community sample was 127.38 ($SD = 12.63$) (O’Connor & Casey, 2015).

Table 1.
Mental Health Literacy Scale

1. If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have Social Phobia
2. If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have Generalized Anxiety Disorder
3. If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **major depressive disorder**
4. To what extent do you think it likely that **personality disorders** are a category of mental illness
5. To what extent do you think it is likely that **dysthymia** is a disorder
6. To what extent do you think it is likely that the diagnosis of **agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing
7. To what extent do you think it is likely that the diagnosis of **bipolar disorder** includes experiencing periods of elevated (ex., high) mood and periods of depressed (ex., low) mood
8. To what extent do you think it is likely that the diagnosis of **drug dependence** includes physical and psychological tolerance of the drug (ex., require more of the drug to get the same effect)
9. To what extent do you think it is likely that in general in the United States, **women are MORE likely to experience a mental illness of any kind compared to men**
10. To what extent do you think it is likely that in general in the United States, **men are MORE likely to experience an anxiety disorder compared to women**
11. To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (ex., becoming very anxious or depressed)
12. To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions
13. To what extent you do think it is likely that **cognitive behavior therapy** is a therapy based on challenging negative thoughts and increasing helpful behaviors
14. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**
15. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**

(Table continues)

16. I am confident that I know where to seek information about mental illness
17. I am confident using the computer or telephone to seek information about mental illness
18. I am confident attending face to face appointments to seek information about mental illness (ex., seeing a general practitioner)
19. I am confident I have access to resources (ex., general practitioner, internet, friends) that I can use to seek information about mental illness
20. People with a mental illness could snap out of it if they wanted
21. A mental illness is a sign of personal weakness
22. A mental illness is not a real medical issue
23. People with a mental illness are dangerous
24. It is best to avoid people with a mental illness so that you don't develop this problem
25. If I had a mental illness I would not tell anyone
26. Seeing a mental health professional means you are not strong enough to manage your own difficulties
27. If I had a mental illness, I would not seek help from a mental health professional
28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective
29. How willing would you be to move next door to someone with a mental illness?
30. How willing would you be to spend an evening socializing with someone with a mental illness?
31. How willing would you be to make friends with someone with a mental illness?
32. How willing would you be to have someone with a mental illness start working closely with you on a job?
33. How willing would you be to have someone with a mental illness marry into your family?
34. How willing would you be to vote for a politician if you knew they had suffered a mental illness?
35. How willing would you be to employ someone if you knew they had a mental illness?

Attitudes Towards Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF)

A 10-item scale was used to assess attitudes towards mental health treatment (Elhai, Schweinle, & Anderson, 2008; Fischer & Farina, 1995; Watson, 2005; Table 2). For example, a participant would be asked “If I believed I was having a mental breakdown, my first inclination would be to get professional attention.” Participants’ response options ranged on a 4-point Likert Scale from disagree (0) to agree (3). Total scoring ranges from 0-30, with higher scores indicating more positive attitudes towards help-seeking. The short form had an internal consistency of 0.82 to 0.84, one month test-retest reliability of 0.80, and a coefficient alpha of 0.77 among a college student sample (Elhai et al., 2008; Appendix C4).

Table 2.

Attitudes Towards Seeking Professional Psychological Help- Short Form

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
2. The idea of talking about problems with a psychologist or counselor strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychological counseling.
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help
5. I would want to get psychological help if I were worried or upset for a long period of time.
6. I might want to have psychological counseling in the future.
7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help
8. Considering the time and expense involved in psychological counseling, it would have doubtful value for a person like me.
9. person should work out his or her own problems; getting psychological counseling would be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves

Procedures

Upon Institutional Review Board approval, participants were recruited at a Midwestern NCAA Division 1 university. The primary researcher contacted head varsity coaches via email to coordinate a meeting with student-athletes. Upon agreement, a date and time was set for the primary researcher to explain the nature of the study to student-athletes. Participants were informed that participation was completely voluntary and no identifying factors would be used (Appendix C1). Completion of surveys took about 10-15 minutes. Due to the primary researcher having direct daily contact with the university's women's soccer team, a committee member presented the study and collected the data from those student-athletes.

For the collection of data for the general student body, the primary researcher contacted all undergraduate department heads from the university via email to ask faculty members in their department for permission to meet with classes to discuss the nature of the study and to invite non-athletes to participate. Upon agreement, a date and time was set for the primary researcher to explain the nature of the study to non-athletes. Participants were informed that participation was completely voluntary and no identifying factors would be used. Completion of surveys took about 10-15 minutes. All student-athletes and non-athletes received brochures from the university's counseling center upon returning surveys back to the primary researcher (Appendix C5).

Data Analysis

IMB SPSS Statistics Version 23 was used to perform statistical analyses.

Preliminary analyses included descriptive data, frequencies, reliabilities, and correlations. First, a multivariate analysis of variance (MANOVA) was conducted to determine gender differences on mental health literacy: knowledge of mental health disorders, confidence to seek information about mental illness, and willingness to associate with an individual with a mental illness. To further explore differences on mental health literacy, participants were grouped based on gender and athletic status: (1) male athlete, (2) female athlete, (3) male non-athlete, (4) female non-athlete, (5) other athlete, and (6) other non-athlete. Thus, a follow-up MANOVA was conducted to compare these groups on mental health literacy. Next, a MANOVA was conducted to determine differences on mental health literacy between participants diagnosed with a mental illness in their lifetime and participants with no mental health history. An analysis of variance (ANOVA) was conducted to determine differences between gender and athletic status on attitudes towards help-seeking. A second ANOVA was conducted to determine differences on attitudes towards help-seeking between participants diagnosed with a mental illness in their lifetime and participants with no mental health history. All analyses were deemed significant at $p \leq .05$.

RESULTS

Reliabilities

For each scale, alpha coefficients were calculated to determine scale reliabilities, including the 3 mental health literacy subscales and attitudes towards help-seeking subscale. An alpha coefficient of .70 or higher was considered acceptable. The Mental Health Literacy Scale (MHLS) demonstrated adequate reliability, with an alpha of .88. Three mental health literacy subscales also demonstrated adequate reliability, with alpha levels of .71 to .93. The short form for the Attitudes Towards Seeking Professional Psychological Help (ATSPPH-SF) subscale had an alpha level of .72.

Descriptive Data

Student-athletes and non-athletes had an above average level of mental health literacy. The mean score for participants was 123.10 ($SD = 12.48$) out of a total score of 160.

Correlations

Disorder knowledge, confidence, and willingness all had positive, weak correlations with each other. The attitudes towards help-seeking subscale had a negative, weak correlation to disorder knowledge, confidence, and willingness (Table 3).

Table 3.
Correlations and descriptive statistics for subscale variables

Variables	1	2	3	4
1. Knowledge of mental health disorders				
2. Confidence to seek information	.24*			
3. Willingness to associate with an individual with a mental illness	.19*	.27*		
4. Attitudes towards help-seeking	-.20*	-.29*	-.35*	
<i>M</i>	15.96	12.99	23.20	2.94
<i>SD</i>	2.19	2.27	5.03	2.15

* significant at $p < .05$

Gender Differences

Males and females were first compared on mental health literacy. The MANOVA was significant: Wilks' $\lambda = .90$, $F(6, 878) = 8.39$, $p < .0001$, $ES = .10$, with significant differences emerging for knowledge of mental health disorders and willingness to associate with an individual with a mental illness. Analysis of the means revealed that females reported significantly higher disorder knowledge and willingness than males. An ANOVA was conducted to determine gender differences on the attitudes towards help-seeking subscale. The ANOVA was significant: $F(2, 441) = 16.69$, $p < .0001$. Males had higher attitudes towards help-seeking ($M = 3.5$, $SD = 2.25$) than females ($M = 2.35$, $SD = 1.85$). Please see Table 4 for means and standard deviations for all constructs by gender.

Table 4.
Means and standard deviations for all constructs by gender

Variables	Males		Females		Other	
	<i>(n = 227)</i>		<i>(n = 212)</i>		<i>(n = 5)</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Knowledge of mental health disorders	15.51 ^b	2.28	16.44 ^a	1.95	16.33	3.11
Confidence to seek information	12.80	2.26	13.19	2.27	13.37	2.04
Willingness to associate with an individual with mental illness	21.82 ^b	5.20	24.58 ^a	4.45	25.88	4.20
Attitudes towards help-seeking	3.50 ^a	2.27	2.36 ^b	1.85	2.54	1.17

^{a, b} = significant differences at $p < .05$

Differences between student-athletes and non-athletes

The participants were then grouped based on gender and athletic status. Thus, six groups were compared on mental health literacy: male athletes, female athletes, male non-athletes, female non-athletes, other athlete, and other non-athlete. The MANOVA was significant: Wilks' $\lambda = .88$, $F(15, 1204) = 4.0$, $p < .0001$, $ES = .12$. Groups differed significantly on knowledge of mental health disorders and willingness to associate with an individual with a mental illness. Post-hoc Tukey tests revealed that male athletes had significantly lower knowledge about mental health disorders and lower willingness to associate with individuals with a mental illness than female athletes and female non-athletes. A significant difference was also found between male non-athletes and female athletes with male non-athletes having lower knowledge about mental health disorders than female athletes. The groups did not differ significantly on their confidence to seek information about mental illness. An ANOVA was conducted to compare the six groups on attitudes towards help-seeking. The ANOVA was significant: $F(5, 438) = 7.75$, $p < .0001$. Male athletes had higher attitudes towards help seeking ($M = 3.30$, $SD = 2.27$) than female athletes ($M = 2.36$, $SD = 1.78$) and female non-athletes ($M = 2.39$, $SD = 1.97$). Please see Table 5 for means and standard deviations for all constructs by gender and athletic status.

Table 5.
Means and standard deviations for all constructs by gender and athletic status

Variables	Male Athletes		Female Athletes		Male Non-Athletes		Female Non-Athletes		Other Athlete		Other Non-Athlete	
	<i>(n = 127)</i>		<i>(n = 95)</i>		<i>(n = 99)</i>		<i>(n = 118)</i>		<i>(n = 3)</i>		<i>(n = 2)</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Knowledge of mental health disorders	15.33 ^b	2.48	16.60 ^a	1.86	15.74 ^b	2.00	16.31 ^a	2.01	15.83	4.16	17.58	2.95
Confidence to seek information	12.95	2.17	13.22	2.42	12.58	2.39	13.16	2.14	14.08	1.88	14.00	0.35
Willingness to associate with an individual with mental illness	21.57 ^b	5.35	24.14 ^a	4.70	22.17	4.98	24.87 ^a	4.24	25.57	4.72	28.57	3.03
Attitudes towards help-seeking	3.80 ^a	2.27	2.36 ^b	1.78	3.07	2.16	2.40 ^b	1.97	3.00	2.78	1.38	1.94

^{a, b} = significant differences at $p < .05$

Mental Health History

A MANOVA was conducted to determine differences between participants who reported being diagnosed with a mental illness in their lifetime and those who did not on mental health literacy. The MANOVA was significant: Wilks' $\lambda = .98$, $F(3, 436) = 3.05$, $p < .0001$, $ES = .02$. Evaluation of the means revealed that participants diagnosed with a mental illness had significantly higher knowledge of mental health disorders and willingness to associate with individuals with a mental illness than participants without a previous mental health diagnosis.

An ANOVA was conducted to determine if participants who reported being diagnosed with a mental illness in their lifetime had higher attitudes towards help-seeking than participants without a previous mental health diagnosis. The ANOVA was significant: $F(1,442) = 13.33$, $p < .0001$. Participants diagnosed with a prior mental illness had lower attitudes towards help-seeking ($M = 1.85$, $SD = 2.03$) than participants without a prior history of mental health diagnosis ($M = 3.06$, $SD = 2.13$).

Predicting help-seeking behaviors

A regression analysis was conducted to determine the relationship between predictors and attitudes towards help-seeking. Predictors included: knowledge of mental health disorders, confidence to seek information about mental illness, and willingness to associate with an individual with a mental illness. A significant relationship emerged: $F(3,440) = 32.26$, $p < .0001$. All three constructs predicted attitude towards help-seeking. Specifically, lower knowledge of mental health disorders ($\beta = -.11$), lower confidence towards seeking information about mental illness ($\beta = -.19$), and lower willingness to

associate with an individual with a mental illness ($\beta = -.29$) were significant predictors of higher attitudes towards help-seeking.

DISCUSSION

The purpose of this study was to investigate the knowledge of mental health literacy and help-seeking attitudes of collegiate student-athletes and non-athletes from a Midwestern University. The study was guided by the following research questions: (1) “What is the level of mental health literacy of student-athletes and non-athletes?” (2) “Do males and females differ on mental health literacy and help-seeking attitudes?” (3) “Do student-athletes and non-athletes differ on mental health literacy?” (4) “Do student-athletes and non-athletes differ on their help-seeking attitudes?” (5) “Do individuals who report a previous mental health history have higher mental health literacy than those who do not report any previous history?” and (6) “Do individuals who report a previous mental health history have more positive attitudes towards help-seeking than those who do not report any previous history?” Results from the study confirmed there were significant differences on mental health literacy and help-seeking attitudes by gender, gender and athletic status, and previous mental health history.

Overall, student-athletes and non-athletes had an above average level of mental health literacy. This finding contradicts the initial hypothesis of the sample exhibiting low levels of mental health literacy. The mean score for participants in this study was comparable to the mean score among a community sample of college students in the study conducted by O’Connor and Casey (2015) using the Mental Health Literacy Scale. One possible reason for an above average level among this sample may be due to curriculum requirements of a Dimensions of Well-Being course and lab for all majors at the university. Other majors may require an introductory psychology course or advanced

psychology courses as part of the curriculum. Mental health topics may be covered in these courses which could influence overall mental health literacy. There is no set range for what deems an exact low or high level of mental health literacy. Future research on mental health literacy, specifically among college student samples, could look at formulating a score range for overall averages and score range by constructs. A baseline mental health literacy score could assist in the development of mental health educational programs to determine areas of deficiency for individuals or groups. A post-test could be conducted upon completion of a mental health educational program to determine any changes from baseline scores.

Hypotheses were not set forth on gender differences or athletic status for mental health literacy due to limited research. A surprising finding to note from this study is that no differences in confidence to seek information about mental illness based on gender or gender and athletic status were found. The MHLS asked participants about overall confidence on where to seek information about mental illness, the confidence to use a computer or telephone to seek information about mental illness, the confidence to see a general practitioner to seek information about mental illness, and the confidence to have access to resources such as the internet or friends that can be used to seek information about mental illness.

Again, educational programs on mental illness could assist individuals or groups on where and how to seek information on mental illness. Future research could explore the reasons why college students do not have the confidence to seek information and what would give college students the confidence to actively seek information. Future

research could also look at what resources (e.g. internet sources or in-person) would be more beneficial for college students to utilize to get the proper information they would want to seek about mental illnesses.

A hypothesis was set forth that non-athletes will have significantly higher attitudes towards help-seeking than student-athletes. This hypothesis was set forth due to the possibility of athletes feeling stigmatized by teammates, coaches, and other peers for admitting they need to seek help for a mental health related issue (Watson, 2005). The results showed that male athletes had higher attitudes towards help-seeking than female athletes and female non-athletes. The male athletes in this sample may have had higher attitudes towards help-seeking due to not having a fear of being stigmatized by teammates and coaches because of an overall positive environment created by teams towards mental health issues. This finding contradicts Elhai et al. (2008) who found females to have higher scores than males on the ATSPPH-SF among a sample of college students. Females may be more likely to internalize stressful situations or negative feedback which may result in the perception that they do not need to seek help for their issues. Females may have also seen how treatment has worked for other people they know. If an individual found treatment did not work for them or may have had a negative experience, another individual who has yet to seek help may view that treatment will not work for them as well based on another person's experience resulting in lower attitudes towards help-seeking. On the opposite, males may be less likely to internalize stressful situations or negative feedback and may be more willing to reach out to seek help. Males

may not have had the same experience as females regarding knowing an individual who sought treatment and had a negative experience.

A significant relationship between predictors and attitudes towards help-seeking was found in this study. Lower knowledge of mental health disorders, lower confidence towards seeking information about mental illness, and lower willingness to associate with an individual with a mental illness were significant predictors of higher attitudes towards help-seeking. Participants in the study were first exposed to the mental health literacy constructs followed by the attitudes towards help-seeking survey. After reading the constructs for mental health literacy, participants may have felt that if they ever experienced the signs and symptoms describing specific mental health disorders in the survey then in the future they would be more than willing to seek the appropriate treatment. Future research should look at whether the order of constructs predicts overall mental health literacy and help-seeking attitudes. For example, participants first would be given the Attitudes Towards Seeking Professional Psychological Help-Short Form to complete and then the Mental Health Literacy Scale.

The hypothesis stating individuals with a previous mental health history will have higher mental health literacy scores than individuals with no prior history was supported by this study. This finding was comparable to O'Connor and Casey (2015) who found individuals that reported having a mental illness had a significantly higher mental health literacy than those who had not. Findings in this study contradicted the hypothesis that individuals with a previous mental health history will have higher attitudes towards help-seeking than individuals with no prior history. Participants without a prior history of a

mental health diagnosis had higher attitudes towards help-seeking than participants diagnosed with a mental illness. Elhai et al. (2008) reported that previous treatment for mental health could impact current attitudes towards treatment. Prior experience predicts strength of attitude (Elhai et al., 2008). Elhai et al. (2008) found participants who received mental health treatment in the past six months had significantly higher scores on the ATSPPH-SF than participants who did not use treatment in the past six months.

Less than favorable attitudes towards treatment is also associated with poor adherence (Elhai et al., 2008). Individuals with a prior mental health history may have had a negative experience with their prior treatment. Individuals may have hit a point during their treatment where they felt the treatment was not working or felt their mental health was not improving. One bad experience with treatment or many years of treatment with no positive outcome could affect an individual's attitudes on future help-seeking. Since treatment did not work for them in the past, an individual may feel that treatment will not work for them in the future either. An individual with no prior mental health history may be more open-minded to help-seeking due to never having a negative experience. Individuals with no prior history may go into treatment with high expectations and see a positive outcome for seeking treatment.

The MHLS and ATSPPH-SF could be important tools for clinicians to use in their daily practice. Prior to athletic participation, athletes are required to under-go a pre-participation exam (PPE). A PPE is used to screen for illness, injury, or other factors that may predispose an athlete to injury or sudden death related illnesses (Conley et al., 2014). Components of a PPE typically include: medical and family history, physical exam,

medication use, nutritional assessment, heat and hydration related risk factors, and mental health considerations (Conley et al., 2014). Questions regarding mental health are used to determine if a plan for referral and follow-up need to be made for an athlete. By establishing a separate mental health questionnaire with more in-depth questions than what may be asked on a PPE, clinicians can provide better care to their athletes and refer them to the appropriate resource. Mental health questionnaires can also be given to athletes and be used to create educational programs like concussion education or heat illness education that athletes typically receive from their athletic trainer(s) prior to in-season competition.

The MHLS and ATSPPH-SF could also aid clinicians throughout the rehabilitation process as an intervention tool. Questionnaires could be given to patients as they progress through an injury to monitor their overall mental health similar to questionnaires given to monitor changes in physical health specific to that injury. If any changes are seen throughout the rehabilitation process, clinicians again can be the first to provide the patient with the proper resources needed for help-seeking. Future research can investigate whether gender differences, such as the ones found in this study, on the MHLS and ATSPPH-SF impact how a clinician provides treatment to males and females and if there is an overall difference in treatment plans depending on how a patient scores on the constructs.

In conclusion, this study supports the hypothesis that individuals with a prior mental health history have a higher mental health literacy than those without a prior history. Hypotheses about the entire sample having an overall low mental health literacy,

non-athletes having higher attitudes towards help-seeking, and individuals with a prior mental health history having higher attitudes towards help-seeking were all contradicted by the results of this study. The results show there were significant differences based on gender, gender and athletic status, and previous mental health history. The results from this study can aid clinicians in the development of educational programs on mental illness for college students and student-athletes as well as implementing more extensive questionnaires regarding mental health on PPEs and throughout the rehabilitation process.

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APPENDIX A
EXTENDED RATIONALE AND PURPOSE

Purpose

The purpose of this study was to investigate the knowledge of mental health literacy and help-seeking attitudes of NCAA Division I student-athletes and non-athletes from a Midwestern University in the United States.

Research Questions and Hypotheses

1. What is the level of mental health literacy of student-athletes and non-athletes?
 - a. Hypothesis: Student-athletes and non-athletes will exhibit low levels of mental health literacy.
2. Do males and females differ on mental health literacy and help-seeking attitudes?
 - a. Hypothesis: No hypothesis is set forth due to limited research comparing gender difference.
3. Do student-athletes and non-athletes differ on mental health literacy?
 - a. Hypothesis: No hypothesis is set forth due to limited research comparing the mental health literacy of student-athletes and non-athletes.
4. Do student-athletes and non-athletes differ on their help-seeking attitudes?
 - a. Hypothesis: Non-athletes will have significantly higher attitudes towards help-seeking than student-athletes.
5. Do individuals who report a previous mental health history have higher mental health literacy than those who do not report any previous history?
 - a. Hypothesis: Individuals with a previous mental health history will have higher mental health literacy scores than individuals with no prior history.

6. Do individuals who report a previous mental health history have more positive attitudes towards help-seeking than those who do not report any previous history?
 - a. Hypothesis: Individuals with a previous mental health history will have higher attitudes towards help-seeking than individuals with no prior history.

Significance of the Study

Mental health across college campuses has been a growing concern due to the increase in number and severity of mental health disorders (Hunt & Eisenberg, 2010). College campuses provide a setting for young adults pursuing a secondary education that integrate career-related activities, social-related activities, health services, and other support services (Hunt & Eisenberg, 2010). College campuses have the unique opportunity of reaching out to many individuals and addressing one of the most significant public health problems among young adults (Hunt & Eisenberg, 2010). National attention towards college student suicides have elevated the concern for mental health issues and campus safety (Drum, Brownson, Denmark, & Smith, 2009). The attention surrounding college student suicides has prompted administration to initiate dialogues on campuses about student mental health issues (Drum et al., 2009).

Current literature has extensively investigated the prevalence of depressive and anxiety symptoms among college students and athletes (Blanco et al., 2008; Gouttebauge, Frings-Dresen, & Sluiter, 2015; Junge & Feddermann-Demont, 2016; Kim, Saw, & Zane, 2015; Nixdorf, Frank, Hautzinger, & Beckman, 2013; Schaal et al., 2011; Weigand, Cohen, & Merenstein, 2013; Wilson, Rickwood, & Deane, 2007; Wolanin, Gross, &

Hong, 2015; Wolanin et al., 2016). This study will add to the limited literature available regarding the mental health literacy of college students. Furthermore, this study will expound on any significant or meaningful differences on mental health literacy by gender, gender and athletic status, and previous mental health history. This study will also add to the limited comparisons of college students' attitudes towards help-seeking. Furthermore, this study will expound on any significant or meaningful differences on help-seeking attitudes by gender, gender and athletic status, and previous mental health history.

For clinical practice, this study will provide healthcare professionals with an understanding of the areas of mental health literacy college students are deficient in. The MHLS can aid healthcare professionals in identifying groups that require further support in developing mental health literacy. By identifying groups and areas of deficiency, programs can be designed to adequately address all attributes of mental health literacy and assist with proper help-seeking.

This study will provide an insight into undergraduate student-athletes and non-athletes' ability to recognize mental health disorders, knowledge of where to seek information, knowledge of risk factors and causes, knowledge of self-treatment, knowledge of professional help available, and attitudes that promote recognition or appropriate help-seeking behavior as well as attitudes toward mental health treatment. Results from this study will help to determine any significant or meaningful differences in the mental health literacy and help-seeking attitudes of student-athletes and non-athletes from a NCAA Division I university.

Limitations

1. Convenience sample of NCAA Division 1 student-athletes and non-athletes 18-25 years old from the University of Northern Iowa.
2. Data was self-reported.
3. Data was collected through a survey method.

Definition of Terms

- Mental health literacy: the knowledge and beliefs regarding mental health that aid in recognition, management, and prevention of mental health issues
- Mental health: a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community
- Public stigma: the degree to which the general population holds negative views and discriminate against a specific group
- Personal stigma: the internalization of negative attitudes from others which result in lowered self-esteem and self-worth
- Depression: a mood disorder that causes a persistent feeling of sadness and loss of interest
- Anxiety: a feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome.
- Ability to recognize specific disorders: ability to correctly identify features of a disorder, a specific disorder, or category of disorders

- Knowledge of how to seek mental health information: knowledge of where to access information and capacity to do so
- Knowledge of risk factors and causes: knowledge of environmental, social, familial or biological factors that increase the risk of developing a mental illness
- Knowledge of self-treatment: knowledge of typical treatments recommended by mental health professionals and activities that an individual can conduct
- Knowledge of professional help available: knowledge of mental health professionals and the services they provide
- Attitudes that promote recognition and appropriate help-seeking: attitudes that impact on recognition of disorders and willingness to engage in help-seeking behavior

APPENDIX B
EXTENDED LITERATURE REVIEW

Mental Health Literacy

Mental Health Literacy (MHL) has been defined as the knowledge and beliefs about mental disorders which aid their recognition, management, or prevention (Jorm, Morgan, & Wright, 2008; Kelly, Jorm, & Wright, 2007; Kim et al., 2015; Loureiro et al., 2013). Mental illness can impact many aspects of life on a personal and professional level for adolescents and young adults (Loureiro et al., 2013). Many adolescents and young adults do not seek help or delay in seeking help because they do not recognize the signs and symptoms of mental illness. Recognition about mental health and mental health disorders, how to find help, and the options for help would greatly aid adolescents and young adults (Kelly et al., 2007).

The attitude of the general population about mental health is primarily negative (Wahl, Susin, Lax, Kaplan, & Zatina, 2012). The general population perceives individuals with mental illness as unproductive members of society, a danger to themselves and to others, volatile, and even revolting. Negative attitudes develop over time throughout an individual's life beginning during their adolescent years (Wahl et al., 2012).

Wahl et al. (2012) developed and administered measures of knowledge and attitudes towards mental illness to middle school students. Students completed a survey consisting of a knowledge measure, attitude measure, and a social distance scale. Students lacked in knowing the signs and symptoms of specific mental disorders, such as bipolar disorder and schizophrenia. The authors were surprised to find students also lacked knowledge about the biological causes of mental illness and treatment. Sixty-five

percent of students were unsure if mental illness had a biological cause, while 37% of students believed medication was useful for treatment. Fifty-three percent of students in the study believed individuals with mental illness are not violent or dangerous. Students stated they would not be frightened by someone with mental illness, they would be comfortable meeting someone with mental illness, and that such individuals should not be avoided. Over 90% of students agreed that individuals with mental illness deserve respect, more needs to be done to help individuals with mental illness, and jokes about mental illness are hurtful. Overall, students expressed a strong acceptance of individuals with mental illness, but lack in recognizing the signs of specific disorders (Wahl et al., 2012).

Loureiro et al. (2013) evaluated the mental health literacy of adolescents and young adults about depression. Participants were given self-reported questionnaires which included assessment of mental health literacy and a case vignette. The study found 27.2% of participants correctly identified the character in vignette was suffering from depression. Participants believed listening to an individual's problems, suggesting seeking help, rallying friends, and assisting the individual in making an appointment with a general practitioner (GP) were all appropriate steps to help the character in the vignette. Over 80% believed telling the individual to drink to forget their problems and to ignore the individual until he/she gets over the problem were harmful. The study concluded that increasing MHL about depression would aid in increasing help seeking behaviors, facilitate mental health first aid, and decrease the delay in recognizing signs and symptoms and seeking professional help (Loureiro et al., 2013). Overall, adolescents

need to be better educated about different mental illnesses and instilled with the notion to have positive and accepting attitudes (Wahl et al., 2012).

In young adults, depression and anxiety are common mental health problems (Gulliver, Griffiths, & Christensen, 2010; Hunt & Eisenberg, 2010; Kim et al., 2015; Zivin, Eisenberg, Gollust, & Golberstein, 2009). Life stressors and depressive disorders are greatly associated with college students. This specific population has low MHL, but higher rates of recognizing depression and help-seeking recommendations for depression (Kim et al., 2015). In a 2-part study, Kim et al. (2015) examined MHL and correct recognition of help-seeking recommendations among college students using an online survey. In Study 1 on depression literacy, 32.8% of participants were highly depressed while the remaining 67.2% were low depressed. Higher depressed individuals were half as likely to recognize signs and symptoms of depression. Eighty-six percent of participants correctly recognized depression and recommended professional help. Participants attributed depression to life stressors, environmental factors, and mental illness (Kim et al., 2015).

Study 2 examined depression and anxiety literacy among college students (Kim, et al., 2015). Results found 32.1% of participants were considered having no/mild distress, 55.2% having moderate distress, and 12.7% having serious distress. Eighty-five percent of participants correctly recognized depression and 84.6% recommended professional help. Higher rates of depression or distress correlated with lower rates of recognition. In Study 2 participants also had lower recognition of anxiety. Findings show there is a need to improve the knowledge of general anxiety disorders.

The Vignette Interview developed by Jorm et al. (1997) was the most commonly used measure to assess mental health literacy (Kim et al., 2015; O'Connor & Casey, 2015). The vignette describes an individual with features of depression and asks participants to respond to a set of multiple choice questions regarding the individual in the vignette (Kim, Saw, & Zane, 2015; Wang & Lai, 2008). This mental health literacy measure is time consuming to administer and does not have a scale-based scoring system. Other scale-based measures for mental health literacy have provided limited psychometric data and do not assess all the attributes of mental health literacy (O'Connor & Casey, 2015).

O'Connor and Casey (2015) developed the Mental Health Literacy Scale (MHLS) to assess attributes of mental health literacy. After measure development, pilot testing, and assessment of psychometric and methodological quality, the final version of the MHLS included a total of 35 questions: the ability to recognize disorders ($n = 8$), knowledge of where to seek information ($n = 4$), knowledge of risk factors and causes ($n = 2$), knowledge of self-treatment ($n = 2$), knowledge of professional help available ($n = 3$), and attitudes that promote recognition or appropriate help-seeking behavior ($n = 16$). Analyses found that participants who had a mental illness had significantly higher MHL ($M = 130.97$, $SD = 13.21$) than participants who did not have a mental illness ($M = 125.19$, $SD = 11.76$). Participants who received help from a mental health practitioner ($M = 133.53$, $SD = 12.02$) had significantly higher MHL than participants who did not ($M = 123.88$, $SD = 11.61$). Participants who had a family member or friend with a mental illness had a significantly higher MHL ($M = 129.53$, $SD = 12.12$) than participants who

did not ($M = 122.69$, $SD = 12.49$) (O'Connor & Casey, 2015). Scores from the MHLS significantly correlated with help-seeking intentions. The MHLS did not correlate with psychological distress which suggests the relationship between help-seeking and mental health literacy are not influenced by levels of distress (O'Connor & Casey, 2015).

Depression and Anxiety

Annually more than 400,000 student-athletes compete in 24 sports in the National Collegiate Athletic Association (Kerr et al., 2014; NCAA, 2007; Neal et al., 2013; Wolanin et al., 2015; Wolanin et al., 2016). A student-athlete's physical health typically takes precedence to focus on injury and their overall performance. Mental health is a major component to the wellness of student-athletes, but is often overlooked (NCAA, 2007). Mental health signs and symptoms can fall into different categories, such as behavioral symptoms, cognitive symptoms, emotional/psychological symptoms, and physical/medical symptoms (NCAA, 2007). Depression and anxiety are two mental illness commonly seen among student athletes and non-athletes alike (NCAA, 2007, 2014).

Depression is a mood or affective disorder characterized by symptoms, such as irritability or anger, decrease in energy/activity levels, social withdrawal, and even negative thoughts (National Alliance on Mental Illness, 2017; NCAA, 2007). The primary causes for depression have been linked to imbalances of chemicals in the brain. Depression can be caused by a response to specific life events, negative thought patterns, or genetic predisposition. College students may experience depression due to loss of social support, under developed coping mechanisms, academic difficulties, health

concerns of a family member, financial concerns, and sleeping difficulties. For student-athletes, injury, poor performance, or pressure to play better may lead to the development of depression. Individuals with depression may also have an anxiety disorder which is the most common mental illness (NCAA, 2007, 2014).

Anxiety can be caused by genetic predispositions, personality factors, or life experiences (National Alliance on Mental Illness, 2017; NCAA, 2007). Symptoms of anxiety can occur daily, increase during specific situations, or even occur without warning. There are many types of anxiety disorders: generalized anxiety disorder, panic attacks or panic disorder, obsessive compulsive disorder, post-traumatic stress disorder, and phobias. Symptoms of anxiety disorders can include excessive worrying, difficulty sitting still or relaxing, increased heart rate, shortness of breath, recurring or redundant thoughts, fear of judgment by others in a social or performance situation, flashbacks of a traumatic event, and irrational fear of a specific object or situation.

A high prevalence of college students with mental health disorders do not seek professional help. Over 90% of counseling center directors reported a notable increase of college students with mental health issues (Czyz, Horwitz, Eisenberg, Kramer, & King, 2013; Gallagher, 2011; Zivin et al., 2009). Around 34%-36% of students received professional help for a mental health disorder while between 4%-5% of students with a substance abuse disorder received treatment and over half of college students who contemplated suicide had not received any professional help (Czyz et al., 2013; Drum et al., 2009; Eisenberg, Golberstein, & Gollust, 2007). The National Survey of College Counseling Center Directors found that 20% of students who committed suicide sought

help from their school counseling center (Czyz et al., 2013). Mental illness is the primary risk factor for suicide among young adults.

Drum et al. (2009) used a Web-based survey to investigate the mental health and suicidal experiences of undergraduate and graduate students from 70 colleges and universities in the United States. Of the total sample of 26,451 students, 44% of undergraduate students and 49% of graduate students reported utilizing mental health services at some point in their lives. During their college career 19% of undergraduate students and 21% of graduate students utilized campus counseling centers. Thoughts of suicide at some point during their lives was self-reported by over half of all participants. Results found that 18% of undergraduate students and 15% of graduate students had “ever seriously considered attempting suicide”. Of the participants who had seriously considered suicide, 47% of undergraduate students and 43% of graduate students reported three or more periods of suicidal thoughts. Results also found 8% of undergraduate students and 5% of graduate students had attempted suicide at least once during their lives (Drum et al., 2009).

The authors found that thoughts of attempting suicide typically occurred with thoughts of plans and preparation (Drum et al., 2009). Of the students who contemplated suicide in the past 12 months, 92% of undergraduate students and 90% of graduate students considered ways of killing themselves or had a specific plan. Drug or alcohol overdose were the most common methods considered by undergraduate students and graduate students. Thirty-seven percent of undergraduate students who contemplated suicide in the past 12 months had gathered materials, wrote a suicide note, did a practice

run, or began an attempt and then changed their mind. Students rated events that had an impact on seriously considering suicide in the past 12 months. Sixty-five percent of both undergraduate and graduate students were looking to find relief from emotional or physical pain. Other events that had a major impact included: romantic relationship problems, impact of wanting to end their life, school problems, friend and family problems.

Previous research has suggested that college student-athletes are more susceptible to mental illness than their non-athletic peers due to not being able to recognize the signs of psychological distress or that having a mental illness as an athlete may be viewed as a sign of weakness (Storch et al., 2005). Studies on depression rates among athletes have primarily been conducted with the collegiate student-athlete population (Kerr et al., 2014; Proctor & Boan-Lenzo, 2010; Storch et al., 2005; Yang et al., 2007; Wolanin et al., 2016). Storch et al. (2005) were the first to investigate rates of depressive symptoms between student-athletes and non-athletes. The authors hypothesized student-athletes would report higher levels of alcohol use, depressive symptoms, and social anxiety and lower levels of social support when compared to non-athletes due to underutilization of school counseling and mental health services. Female student-athletes reported having higher depressive symptoms, social anxiety, and lower social support more than male student-athletes and male and female non-athletes. Results suggest female student-athletes experience higher levels of depressive and anxiety symptoms while perceiving to have less support than their female non-athlete peers. Female student-athletes may be exposed to more stressors such as, academic problems and difficulty joining extra-

curricular activities outside of their sport, which can lead to internalizing the effects stressful situations and negative feedback compared to male athletes and non-athlete peers.

Yang et al. (2007) had similar findings in a sample of Division I student-athletes with female student-athletes reporting higher levels of depression than male athletes through self-reported measures. While the exact reason females experience more signs and symptoms of depression is unclear, the authors suggest females may be more likely to seek help and report depression symptoms along with biological and social factors that can contribute to the increased risk of depression (Yang et al., 2007). In addition to gender, results found class academic year to be significant factors associated with depression symptoms. Female and freshmen student-athletes who self-reported pain in the past week with a score greater than 1 on an 11-point numeric rating scale had significantly greater odds of experiencing depression symptoms. Female and male athletes who reported a previous history of clinically diagnosed depression or reported pain also experienced significantly more symptoms of depression. Results from the study also found a significant correlation between depression symptom scores and anxiety scores of student-athletes. An increase of anxiety and pain was found to be associated with depression symptoms. Overall, the study conducted by Yang et al. (2007) found female athletes reported higher levels of depression than males which is consistent with data from the general population which found females to report higher rates of depression and more likely to seek help than males.

Proctor and Boan-Lenzo (2010) examined the difference in self-reported depression symptoms between a sample of baseball players and male non-athletes from two public universities while controlling for task-oriented and emotion-oriented coping strategies. Two schools of thought regarding athletic participation have manifested in the literature: distress-buffering and distress-contributing (Proctor & Boan-Lenzo, 2010; Storch et al., 2005).

Distress-buffering suggests that athletic participation provides physical and mental health benefits, such as improved self-esteem, improved general mental health, and a decrease in social anxiety, depression, and stress (Proctor & Boan-Lenzo, 2010). The distress-contributing model argues that when an athlete enters the next level of sport participation, like collegiate sports, there are many stressors associated with the sport (Proctor & Boan-Lenzo, 2010). Commitment to sport may hinder developing and maintaining social interactions and relationships that are experienced by non-athletes (Proctor & Boan-Lenzo, 2010). The commitment that is required of a NCAA Division I student-athlete may take away from having a “well-rounded” college experience. A “well-rounded” college experience can provide personal growth through campus organizations and campus events (Proctor & Boan-Lenzo, 2010). Athletic commitment takes precedence for student-athletes. A student-athlete must balance college life with athletic life which adds stress a non-athlete may not experience. These added stressors, such as injury, competing for position, and relationships with coaches and teammates, can lead to an increase in alcohol consumption, disordered eating, depression, anxiety, and even suicide (Proctor & Boan-Lenzo, 2010).

Coping in the behavioral or psychological process is activated in order to eliminate or weaken the effects of a stressor (Proctor & Boan-Lenzo, 2010). There are three categories of coping strategies: problem-focused or task-oriented, emotion-focused, and avoidance coping. Problem-focused coping is when an individual intentionally alters or manages a problem. This may be done through communication, planning, or seeking information (Proctor & Boan-Lenzo, 2010). Emotion-focused coping is an attempt to alleviate distress associated with a situation or the emotional result of a problem by self-blame, acceptance, wishful thinking, or relaxation (Proctor & Boan-Lenzo, 2010). Avoidance coping is the behavioral or psychological effort to disengage from a stressful situation through physically removing oneself from the situation, or blocking or suppressing one's own emotions (Proctor & Boan-Lenzo, 2010). Out of the three categories of coping, college student-athletes and non-athletes benefit the most from problem-focused coping (Proctor & Boan-Lenzo, 2010).

Athletes utilize problem-focused coping more than any other coping strategy. The use of problem-focused coping may decrease the risk of psychological concern like depression or anxiety (Proctor & Boan-Lenzo, 2010). The inability to properly cope with a situation or stressor can lead to physical and psychological implications (Proctor & Boan-Lenzo, 2010). A stressful situation can trigger psychological responses which may lead to an increased vulnerability to disease, such as mental health disorders.

Proctor and Boan-Lenzo (2010) found a significant difference in college students self-reported symptoms of depression based on athletic status. The authors found male athletes reported fewer depression systems than male non-athletes, but 15.6% of male

athletes met the criteria for possible depression compared with 29.4% of male non-athletes. The findings support the notion that athletic participation may be beneficial to one's mental well-being, but male non-athletes may have reported higher rates of depression symptoms because non-athletes with a vulnerability towards depression may not have the athletic skill or desire to compete at the collegiate level. Male athletes may report fewer depression symptoms than male non-athletes due to mental toughness and strong work ethic that comes with athletic participation. Depression may be viewed as a sign of weakness in athletics (Proctor & Boan-Lenzo, 2010).

Wolanin et al. (2016) investigated the prevalence of depression symptoms among NCAA Division I student-athletes by gender and gender and sport over a 3-year consecutive period. Participants completed the Center for Epidemiological Studies Depression Scale (CES-D) during annual sports medicine physicals. The authors found the prevalence of depressive symptoms overall were highest for female athletes compared to male athletes. Female track and field student-athletes had the highest depression prevalence across the entire sample while male lacrosse student-athletes had the lowest rates of depressive symptoms across the entire sample. Team related factors such as, team culture, program funding, personalities of coaching staff, team performance, or other environmental factors could increase or decrease rates of depression symptoms. This study suggests that depression symptoms are common in among the collegiate student-athlete population and there is a need to increase mental health screenings as part of standardized care.

A 9-year study was conducted by Rao et al. (2015) to determine the incidence of suicide among NCAA student-athletes using a voluntary database of student-athlete deaths. Thirty-five cases of suicide were identified among the 477-reported student-athlete deaths. The overall suicide rate for student-athletes was 0.93/100,00 per year. The study found NCAA football had the highest incidence of suicide at 37.1% followed by soccer (14.3%), track/cross-country (14.3%), baseball (11.5%), and swimming (8.6%). This study suggests that suicide rates among NCAA student-athletes are lower than rates among college students and those of college age. Participation in college athletics may provide greater supportive social networks for student-athletes which can buffer the effects of suicidal behavior. Student-athletes may also suffer from injury, have trouble balancing athletic participation with college life, be unable to meet high expectations from coaches and teammates which in turn may lead to an increased risk of depression and suicidal behaviors (Rao et al., 2015).

Former collegiate student-athletes can be at an increased risk for depression due to loss of social support, loss of athletic identity, and changes in lifestyle (Weigand et al., 2013). Weigand et al. (2013) hypothesized former collegiate student-athletes would be at an increased risk for depression, but found current collegiate student-athletes were at a greater risk for depression. Higher levels of depression for current collegiate student-athletes could be attributed to overtraining, sports-related injury, or pressure to perform well. Former collegiate student-athletes are no longer under the demands of their sport after graduation, which could attribute to the lower rates of depression.

Kerr et al. (2014) investigated the current health of former Division I collegiate student-athletes using self-reported online questionnaires pertaining to physical and mental health. Of the 797 individuals who participated in the study, 16.2% reported having general anxiety, 10.4% with depression, and 9.7% had ADD/ADHD. Only 61.9% of the medical conditions reported were diagnosed by a physician. The findings suggest that former collegiate student-athletes have deficits in their physical and mental health, but overall scores for physical and mental health were consistent with scores of the general population. The numerous medical conditions and mental health issues reported by participants signifies the importance of assisting former collegiate student-athletes to find the proper resources needed for physical and mental health beyond their college careers.

Unlike the collegiate student-athlete population, there is limited data on depressive symptoms of elite athletes (Frank, Nixdorf, & Beckmann, 2015; Gouttebarga et al., 2015; Hughes & Leavey, 2012; Junge & Feddermann-Demont, 2016; Nixdorf, Frank, Hautzinger, & Beckmann, 2013; Schaal et al., 2011). Many assumptions are made about elite athletes, such as they are less vulnerable to depressive symptoms because of resiliency or they are highly vulnerable to symptoms due to levels of stress and pressures within their sport (Frank, Nixdorf, & Beckmann, 2015; Nixdorf et al., 2013). Junge and Feddermann-Demont (2016) evaluated depression and anxiety symptoms among male and female Swiss first league and U-21 football players. Male and female football players were found to be at the same risk for depression as the general population and at a lower risk for anxiety than the general population. The response rate for depression symptoms

was significantly higher in female first league players than male first league players. Male first league players had significantly lower scores for depression than female first league players and male U-21 players. Male U-21 players had significantly higher scores than male and female first league players which is similar to the mental health of collegiate student-athletes found in other studies. (Junge & Feddermann-Demont, 2016).

The prevalence of mental health issues such as distress, burnout, anxiety, and depression among current and former professional footballers was investigated by Goutteborge, Frings-Dresen, and Sluiter (2015). Depression and anxiety were most commonly reported between both groups of athletes. The study found former professional footballers to have a greater occurrence of mental health issues compared to current footballers. Current players with recent major life events and lower social support were more likely to have mental health problems and report those problems compared to former players, who were more likely to complain about their mental health status (Goutteborge et al., 2015). Athletes and college students alike are reluctant to seek help for mental health issues.

Barriers to Help-Seeking

Students with mental disorders do not always receive appropriate treatment due to the many barriers associated with seeking help. Students may not see treatment as an urgent matter or have other priorities (Eisenberg et al., 2011). Eisenberg et al. (2011) found that college students' beliefs about treatment effectiveness and the familiarity of others who were utilizing help sources, and perceived need for help were significantly associated with receiving treatment. Of the students who did not receive treatment, 54.9%

preferred to deal with issues on their own, 47.3% believed stress in college was normal, and 43.4% did not have enough time to seek help (Eisenberg et al., 2011). Czyz et al. (2013) examined self-rated barriers to find 66% of participants did not want to seek help because of the belief that their issues were minor, 26.8% were too busy to seek help, 18% relied on self-help techniques, and 12% reported stigma as a barrier.

The stigma surrounding mental health has been one of the more prominent barriers to help seeking in the college student population (Crowe, Averett, & Glass, 2016). Many different stigmas are related to mental illness, such as public stigma or the degree to which the general population holds negative views and discriminate against a specific group; perceived public stigma or an individual's belief about how members of their community view those with mental illness; personal stigma or the internalization of negative attitudes from others which result in lowered self-esteem and self-worth. Other types of stigma include: help-seeking stigma or the stigma one experiences from seeking help; associative stigma or when a family member or close friend of the individual with mental illness feels stigmatized by others; and anticipated stigma or the belief stigma will result after disclosing a mental illness (Crowe et al., 2016; Kaier et al., 2015; Kosyluk et al., 2016).

Perceived public stigma and personal stigma towards help-seeking between a sample of college athletes and non-athletes was examined by Kaier et al. (2015). The authors believed help-seeking services may be underutilized by college athletes due to labelling and less positive attitudes towards help-seeking. Results of the study found college athletes to have higher levels of perceived public stigma and personal stigma than

non-athletes, which suggests athlete may be internalizing prejudices about mental illness (Kaier et al., 2015)

Young elite athletes (16-23 years old) participated in focus group discussions about barriers and facilitators to help-seeking (Gulliver et al., 2012). Participants discussed how seeking help from a professional was more acceptable for performance anxiety or goal-setting. Young elite athletes were concerned of who would find out the athlete was seeking help, such as coaches and teammates, and the negative consequences that would come from those groups. Over 40% of participants reported barriers to help-seeking were related to stigma and embarrassment. Lack of knowledge about how to seek help and the services available, and negative past experiences were considered major barriers by participants. Participants recognized their lack of knowledge about signs and symptoms could be due to difficulty differentiating the difference between feelings of tiredness and sadness and the signs and symptoms of a mental health disorder (Gulliver et al., 2012).

Student-athletes may have negative attitudes towards help-seeking because of the fear of being stigmatized by coaches, teammates, and other peers (Watson, 2005). Admitting the need for help could result in a weakened self-efficacy in performance, reduced playing time, or a change in the relationship and trust among teammates and coaches and the athlete's ability to perform (Uphill, Sly, & Swain, 2016; Watson, 2005). Watson (2005) found a significant difference in attitudes towards help-seeking between student-athletes and non-athletes. Student-athletes had less positive attitudes than non-athletes. Student-athletes have higher expectations that service providers will understand

the challenges and demands of being a student-athlete. A partnership between campus counseling services and athletic departments could aid in the development of interventions specific for assisting the mental health needs of student-athletes (Watson, 2005).

The relationships between resilience, stigma, and help-seeking were investigated through a focus group format (Crowe et al., 2016). Participants believed that if stigma is present then stigma will limit an individual's ability to be resilient. Stigma can lead to not seeking help which leads to a decrease in resiliency. Participants also believed that those with a mental illness who seek help are stigmatized for their mental illness and then viewed as being not resilient. The stigma related to help-seeking can impact an individual's decision to seek help or not. The decision to seek help can aid in increasing resilience, which decreases stigma. Participants recognized that education for individuals regardless of mental health status, about what treatment and counseling is could reduce the stigma towards mental health and normalize mental health treatment (Crowe et al., 2016).

Other barriers to help-seeking include the belief that stress is normal for college students, lack of perceived need for help, difficulty identifying signs of mental illness, self-reliance (solving one's own problems), lack of time, cost, and the uncertainty of professional help being beneficial (Czyz et al., 2013; Eisenberg et al., 2007; Gulliver et al., 2010, 2012; Kosyluk et al., 2016). Financial constraints have been cited as a barrier for help-seeking but services such as counseling and primary care are free for college students on-campus (Eisenberg et al., 2007). However, college students were unaware of

or unfamiliar with the services provided on campus (Eisenberg et al., 2007). Additionally, students with health insurance were not sure if their insurance plans covered mental health visits. Many students were also concerned their parents would find out about their help-seeking due to being on parents' insurance plans (Eisenberg et al., 2007). Providing education and awareness to college students would address availability and effectiveness of services provided on college campuses.

Wilson, Rickwood, and Deane (2007) investigated whether depressive symptoms facilitated or inhibited help-seeking from professional and informal sources of help among a sample of Australian students. University students with moderate to severe levels of depression were less likely to seek help from parents and non-parental family and less likely to seek help at all. Students who had prior contact with a mental health professional that was viewed as helpful were more likely to seek help in the future compared to those who found prior contact to be unhelpful.

Help-Seeking Methods

Young people have the greatest need for mental health interventions, but are the least likely to seek help (Goodwin, Behan, Kelly, McCarthy, & Horgan, 2016; Rickwood, Deane, & Wilson, 2007). Whether or not a young person seeks help can be based on different individual and structural factors, such as the person's mental health literacy, overall attitudes, perceived stigma, family, school or community support systems, and referral pathways (Rickwood, Deane, & Wilson, 2007). Young adults are more inclined to seek help if they have knowledge about mental health and sources of help, can share their feelings, and have an established relationship with a health care provider

(Rickwood, Deane, & Wilson, 2007). Australian general practitioners, psychiatrists, and psychologists were asked to rate the helpfulness of mental health first aid for young adults with depression, depression with alcohol misuse, social phobia, or psychosis (Jorm, Morgan, & Wright, 2008). Helpful strategies for disorders agreed on by professionals included: listening to the person's problems in an understanding way, suggesting seeking professional help, not ignoring the person, and not suggesting substance use for coping. Early recognition and labelling of mental health disorders is also a major component of mental health literacy that can assist in facilitating help-seeking (Wright, Jorm, Harris, & McGorry, 2007).

Keyes (2002) described the presence of mental health as either flourishing or languishing in life meaning that an individual with flourishing mental health has high levels of well-being, positive emotions, and functions well psychologically and socially while someone who is languishing in life has low levels of well-being, feels an emptiness or void in life, may suffer from major depressive episodes, and have limitations within their daily activities of living. On Keyes' (2002) two continuum model of mental health, mental illness and mental health exist on two separate continua rather than on separate sides of one continuum. While mental illness and mental health are two distinct entities they are related to each other: meaning an individual, for example a college student, could have positive mental health with a mental illness or not have a mental illness but experiences low levels of mental health (Keyes, 2002; Uphill et al., 2016). The model can provide a perspective on mental illness and mental health instead of focusing on labels which can lead to stigma for college students. The model suggests using a two-step

approach to promote mental health: reducing and preventing mental distress, and developing and protecting mental wealth. Interventions should not focus solely on mental illness, but also encompass mental health. Promoting mental health can reduce the development of a mental illness (Keyes, 2002; Uphill et al., 2016).

Fischer and Turner (1970) developed a self-reported 29-item scale to assess attitudes towards seeking professional help which was standardized for a college student population (Elhai et al., 2008; Fischer & Turner, 1970; Watson, 2005). Fischer and Farina (1995) developed a short-form version of the original scale that would produce a single score to represent the participant's overall attitudes. On the short-form, individuals who reported prior help from a professional scored higher than those who did not report utilizing any services. Higher scores correlated with lower stigma towards mental health treatment. A significant relationship was found between the Attitudes Towards Seeking Professional Psychological Help-Short Form scores and intentions to seek help in the future. Overall scores indicate positive attitudes for help-seeking (Elhai et al., 2008).

Gulliver et al. (2010) conducted a systematic review on qualitative and quantitative literature on perceived barriers and facilitators towards help-seeking in young adults. Facilitators for help-seeking were not addressed in the quantitative studies. In the qualitative literature, positive past experiences with help-seeking was the number one facilitator reported. Social support or encouragement from others, confidentiality and trust in provider, positive relationships with service staff, and education and awareness were other key themes found for facilitators.

For collegiate student-athletes, athletic departments have recognized the need to address mental health issues (Gill, 2008). Sudano and Miles (2017) conducted a web-based survey among NCAA Division I head athletic trainers to identify the mental health care services available to student-athletes. A total of 127 head athletic trainers at Division I institutions completed the survey for a 36% response rate (Sudano & Miles, 2017). Ninety-eight percent of participants noted student-athletes have the option to receive mental health care services. Over half of participants (72.4%) reported having a mental health clinician available in student counseling centers. Other locations with mental health clinicians included the athletic training room (20.5%), within campus athletic department (18.1%), on-site (11%), offsite (17.3%), or other accommodations (6.3%). Forty-six percent of participants indicated they could provide better care to their student-athletes if a mental care clinician was on-site (Sudano & Miles, 2017). Depression, anxiety, disordered eating, family issues, and sport performance were the most common mental health issues participants encountered as athletic trainers. Fifty-eight percent of participants were satisfied with the feedback received from mental health clinicians regarding student-athlete mental health.

This study found there is a lack of uniformity in services available to student-athletes. Student-athlete self-referral may be easier if a mental health clinician was easily accessible in or near the athletic training room. Results suggest head athletic trainers at NCAA Division I institutions are aware of mental health issues among student-athletes (Sudano & Miles, 2017). A line of open communication between student-athlete and

athletic trainer is important to assist student-athletes with mental health issues (Sudano & Miles, 2017).

A unique source of help for collegiate student-athletes are the athletic trainers they encounter and interact with daily. Because of that direct daily contact, student-athletes form trusting relationships with their athletic trainer(s) and view those individuals as a source for advice or assistance (Neal et al., 2013). Recommendations have been made for athletic trainers in developing a plan to recognize and refer student-athletes with psychological concerns since providing direct psychological care is not in an athletic trainer's scope of practice (Neal et al., 2013). Athletic trainers should take note in behavioral changes of student-athletes because the student-athlete may be unaware of being affected by a stressor and may act out instead of seeking appropriate help. Some behaviors to monitor for are changes in eating and sleeping habits, unexplained weight loss or gain, decreased interest in activities, partaking in risky behaviors, mood swings, agitation or irritability. Long-term, season, or career ending injuries can be a source of stress for student-athletes. Student-athletes may be afraid of re-injury when returning to play. A concussion can lead to cognitive and psychological changes in a student-athlete. Cognitive and psychological changes should be monitored while the individual is symptomatic and throughout return to activity.

A team consisting of the team physician(s), athletic trainers, campus counseling services, and community-based mental health care professionals should be put in place to assist with the psychological concerns of student-athletes (Neal et al., 2013). This team of health care professionals can assist student-athletes throughout the referral process for

psychological evaluation and care. The pre-participation physical examination can be used to ask student-athletes about previous mental health history. Team physicians can discuss affirmative answers with student-athletes and decide whether a follow-up evaluation, care, or medication is necessary (Neal et al., 2013). When approaching a student-athlete to discuss a potential psychological concern, the conversation should focus on the athlete as a person and not as an athlete. Discussing a potential psychological concern with a student-athlete is a sensitive subject, therefore having the correct facts and context concerning the behavior prior to a private meeting with the student-athlete is important (Neal et al., 2013).

A referral should happen immediately once a student-athlete agrees to a psychological evaluation or indicates wanting to be evaluated for a psychological concern (Neal et al., 2013). An established relationship with campus or community-based mental health care professionals is important because these individuals can assist in facilitating the referral. Athletic trainers should help student-athletes make the initial appointment. The referral is confidential, but notifying coaches and parents or guardians about the appointment may be helpful (Neal et al., 2013). Student-athletes are not required to notify coaches, parents, or guardians, but should be encouraged to do so because mental health care is no different from physical health care. Community-based mental health care may use medical insurance which would notify parents or guardians of mental health care through an explanation-of-benefits (Neal et al., 2013).

Emergency referral for mental health is recommended when a student-athlete is an imminent threat to themselves or others; report feeling out of control or unable to

make sound decisions; or are incoherent, confused, or express delusional thoughts (Neal et al., 2013). The following are steps to be considered when developing a protocol for an emergent mental health referral: if a student-athlete appears violent or acts out violently call campus and local law enforcement, seek immediate assistance, and act to protect bystanders from harm; if a student-athlete is potentially suicidal do not leave he or she alone, call for assistance and instructions on how and where the student-athlete will be taken for assessment, offer to accompany student-athlete to place of assessment; seek advice or assistance from athletic administration, student affairs, or general counsel on how to contact the student-athlete's family to inform them of the incident (Neal et al., 2013).

Campus counseling services and athletic departments should have an established relationship to help assist the needs of student-athletes. Student-athletes are more likely to have favorable views of therapists who understand the world of athletics and the problems associated with being a student-athlete (Neal et al., 2013). Athletic departments should have a primary point person that acts as a liaison to counseling services who helps facilitate the referral process for student-athlete. The consensus statement recommends the athletic trainer to be the point person for referrals. The important components when assisting student-athletes with psychological concerns are education, early recognition, and effective referral (Neal et al., 2013).

In 2013, a multidisciplinary task force was formed by the NCAA to address mental health issues faced by NCAA student-athletes (National Collegiate Athletic Association Sports Science Institute, 2016). The NCAA designed a consensus document

with recommendations for supporting and promoting student-athlete mental health that mirrors the recommendations for athletic trainers (National Collegiate Athletic Association Sport Science Institute, 2016). For student-athletes, the sport environment can add risk and protective factors to mental health disorders in addition to genetic predispositions and environmental factors previously mentioned in this literature review. The sport environment should establish promotion of mental health practices, destigmatize mental health challenges, normalize help-seeking, facilitate early identification of mental health disorders, and ensure the student-athlete receives care from an appropriate licensed mental health practitioner (National Collegiate Athletic Association Sport Science Institute, 2016).

Licensed practitioners for formal evaluation and treatment may include: clinical or counseling psychologists, psychiatrists, licensed social workers, psychiatric mental health nurses, licensed mental health counselors, and primary care physicians with specialization in mental health disorders. Mental health practitioners should be competent to work with student-athletes and complete continuing education related to athletics (National Collegiate Athletic Association Sport Science Institute, 2016). Licensed practitioners and the primary athletics health care providers should meet on an annual basis to review protocols and develop strategies for educating student-athletes about institutional procedures for mental health procedures and management. All student-athletes should receive annual information from athletic trainers, team physicians, and licensed practitioners about signs and symptoms of mental health disorders (National Collegiate Athletic Association Sport Science Institute, 2016). All coaches and faculty

athletics representatives should also receive annual information regarding appropriate first response to emergency situations; signs and symptoms of mental health disorders; the importance of and how to create a positive team culture that promotes personal growth, autonomy and positive relationships with others; how to encourage and support team members who are facing mental health challenges to seek appropriate management and referrals from athletic trainers and team physicians; the specific referral process to follow if a coach is concerned about an student-athlete's mental health; the importance of understanding and helping to minimize the possible tension that can exist in student-athletes about adverse consequences for seeking mental health care (National Collegiate Athletic Association Sport Science Institute, 2016).

Overall, increasing MHL may change attitudes towards mental illness and the willingness to seek or suggest finding help. Lack of MHL knowledge may contribute to the underutilization of on-campus mental health services by college students (Kim et al., 2015). Increasing MHL can have a positive impact on behaviors and increase the probability of an individual using mental health services in the future (Kim et al., 2015). Therefore, the purpose of this study will be to provide a better insight into the mental health literacy and help-seeking attitudes of collegiate student-athletes and their non-athlete peers.

APPENDIX C
PARTICIPANT MATERIALS

Appendix C1. Informed Consent Form.

**UNIVERSITY OF NORTHERN IOWA
HUMAN PARTICIPANTS REVIEW
INFORMED CONSENT**

Project Title: Mental Health Literacy: The knowledge of mental health literacy and help-seeking attitudes among NCAA Division I student-athletes and non-athletes
Name of Investigator(s): Danielle Schuck (Peter Neibert, Kelli Synder, Windee Weiss)

Invitation to Participate: You are invited to participate in a research project conducted through the University of Northern Iowa. The University requires that you give your permission to participate in this project. The following information is provided to help you make an informed decision whether to participate or not.

Nature and Purpose: The purpose of this study is to investigate the mental health literacy and help-seeking attitudes of undergraduate students and student-athletes at the University of Northern Iowa.

Explanation of Procedures: If you agree to participate in this study, you will be asked to:

1. Fill out a demographic form (gender, age, ethnicity/race, academic year) which includes questions about previous mental health.
2. Fill out one survey on mental health literacy to gain an understanding of your knowledge of various aspects to do with mental health.
3. Fill out one survey on attitudes towards seeking professional help.

You will have the opportunity to review all surveys prior to volunteering to participate.

Discomfort and Risks: There are no foreseeable risks beyond those that occur in everyday life.

Benefits and Compensation: This study may be of no direct benefit to you. There will be no compensation for participation.

Confidentiality: Your participation in this research is confidential. Only the investigators will have access to information associated with your identity. If this study is published, no personal identifying information will be disclosed. Data in this study may be used in future studies.

Right to Refuse or Withdraw: Your participation is completely voluntary. You are free to withdraw from participation at any time or to choose not to participate at all, and by doing so, you will not be penalized or lose benefits to which you are otherwise entitled.

Questions: If you have questions about the study or desire information in the future regarding your participation or the study in general, you can contact Danielle Schuck (schuckd@uni.edu) or Peter Neibert (peter.neibert@uni.edu) at the University of Northern Iowa. You can also contact the office of the Human Participants Coordinator, UNI, at (319) 273-6148, for answers to questions about your rights and the participant review process.

Agreement: I am fully aware of the nature and extent of my participation in this project as stated above and the possible risks arising from it. I hereby agree to participate in this project. I acknowledge that I have received a copy of this consent statement. I am 18 years of age or older.

Please turn the page if you agree to participate.

Appendix C2. Demographic Form.

Gender: ____ Male ____ Female ____ Other **Age:** _____

Academic Year: (Please Circle) First Year Sophomore Junior Senior

Major: _____

Ethnicity/Race: ____ African American ____ Asian/Asian American

____ Hispanic or Latino ____ American Indian

____ Caucasian ____ Arab/Middle Eastern

____ Other: Please specify _____

In your lifetime, have you ever been diagnosed with a mental illness?

YES

NO

In your lifetime, have you ever received treatment for a mental health concern? (ex., counseling, medication, etc.)

YES

NO

Do you have an immediate family member (ex., parent, sibling) who has been diagnosed with a mental illness?

YES

NO

Are you a student-athlete at UNI? ____ YES ____ NO

What NCAA UNI sport do you compete for? (Please circle)

Wrestling Women's Golf Tennis Softball Women's Basketball

Football Soccer Volleyball Men's Golf Cross Country

Swim & Dive Men's Basketball Track & Field

Appendix C3. Mental Health Literacy Scale

The purpose of these questions is to gain an understanding of your knowledge of various aspects to do with mental health. When responding, we are interested in your degree of knowledge. Therefore, when choosing your response consider that:

Very unlikely = I am certain that it is NOT likely

Unlikely = I think it is unlikely but am not certain

Likely = I think it is likely but am not certain

Very Likely = I am certain that it IS very likely

1. If someone became extremely nervous or anxious in one or more situations with other people (ex., a party) or performance situation (ex., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **social phobia**

Very unlikely

Unlikely

Likely

Very likely

2. If someone experienced excessive worrying about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **generalized anxiety disorder**

Very unlikely

Unlikely

Likely

Very likely

3. If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **major depressive disorder**

Very unlikely

Unlikely

Likely

Very likely

4. To what extent do you think it is likely that **personality disorders** are a category of mental illness

Very unlikely

Unlikely

Likely

Very likely

5. To what extent do you think it is likely that **dysthymia** is a disorder

Very unlikely

Unlikely

Likely

Very likely

6. To what extent do you think it is likely that the diagnosis of **agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing Very unlikely

Very unlikely Unlikely Likely Very likely

7. To what extent do you think it is likely that the diagnosis of **bipolar disorder** includes experiencing periods of elevated (ex., high) mood and periods of depressed (ex., low) mood

Very unlikely Unlikely Likely Very likely

8. To what extent do you think it is likely that the diagnosis of **drug dependence** includes physical and psychological tolerance of the drug (ex., require more of the drug to get the same effect)

Very unlikely Unlikely Likely Very likely

9. To what extent do you think it is likely that in general in the United States, **women are MORE likely to experience a mental illness of any kind compared to men**

Very unlikely Unlikely Likely Very likely

10. To what extent do you think it is likely that in general in the United States, **men are MORE likely to experience an anxiety disorder compared to women**

Very unlikely Unlikely Likely Very likely

When choosing your response for the following questions, consider that:

Very unhelpful = I am certain that it is NOT helpful

Unhelpful = I think it is unhelpful but am not certain

Helpful = I think it is helpful but am not certain

Very helpful = I am certain that it IS very helpful

11. To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (ex., becoming very anxious or depressed)

Very unhelpful Unhelpful Helpful Very helpful

12. To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions

Very unhelpful Unhelpful Helpful Very helpful

When choosing your response for the following questions, consider that:

Very unlikely = I am certain that it is NOT likely

Unlikely = I think it is unlikely but am not certain

Likely = I think it is likely but am not certain

Very Likely = I am certain that it IS very likely

13. To what extent do you think it is likely that **cognitive behavior therapy** is a therapy based on challenging negative thoughts and increasing helpful behaviors

Very unlikely Unlikely Likely Very likely

Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

14. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If you are at immediate risk of harm to yourself or others

Very unlikely Unlikely Likely Very likely

15. To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

If your problem is not life-threatening and they want to assist others to better support you

Very unlikely Unlikely Likely Very likely

Please indicate to what extent you agree with the following statements:

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
16. I am confident that I know where to seek information about mental illness					
17. I am confident using the computer or telephone to seek information about mental illness					
18. I am confident attending face to face appointments to seeking information about mental illness (ex., seeing a general practitioner)					
19. I am confident I have access to resources (ex., general practitioner, internet, friends) that I can use to seek information about mental illness					
20. People with a mental illness could snap out of it if they wanted					
21. A mental illness is a sign of personal weakness					
22. A mental illness is not a real medical issue					
23. People with a mental illness are dangerous					
24. It is best to avoid people with a mental illness so that you don't develop this problem					
25. If I had a mental illness I would not tell anyone					
26. Seeing a mental health professional means you are not strong enough to manage your own difficulties					

27. If I had a mental illness, I would not seek help from a mental health professional					
28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective					

Please indicate to what extent you agree with the following statements:

	Definitely unwilling	Probably unwilling	Neither unwilling or willing	Probably willing	Definitely willing
29. How willing would you be to move next door to someone with a mental illness?					
30. How willing would you be to spend an evening socializing with someone with a mental illness?					
31. How willing would you be to make friends with someone with a mental illness?					
32. How willing would you be to have someone with a mental illness start working closely with you on a job?					
33. How willing would you be to have someone with a mental illness marrying into your family?					
34. How willing would you be to vote for a politician if you knew they had suffered a mental illness?					
35. How willing would you be to employ someone if you knew they had a mental illness?					

Appendix C4. Attitudes Towards Seeking Professional Psychological Help Survey.

Read each question carefully and indicate your degree of agreement using the scale below. In responding, please be completely candid.

0 = Disagree 1 = Partly disagree 2 = Partly agree 3 = Agree

- _____ 1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
- _____ 2. The idea of talking about problems with a psychologist or counselor strikes me as a poor way to get rid of emotional conflicts.
- _____ 3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychological counseling.
- _____ 4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.
- _____ 5. I would want to get psychological help if I were worried or upset for a long period of time.
- _____ 6. I might want to have psychological counseling in the future.
- _____ 7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.
- _____ 8. Considering the time and expense involved in psychological counseling, it would have doubtful value for a person like me.
- _____ 9. A person should work out his or her own problems; getting psychological counseling would be a last resort.
- _____ 10. Personal and emotional troubles, like many things, tend to work out by themselves.

Thank you for your participation!
Please return this packet to the administrator.

Appendix C5. Counseling Center Brochure.

What is counseling?

- Counseling is a confidential discussion between you and a counselor or psychologist about personal, social, or emotional issues that cause distress or impair your functioning.
- Counseling helps you identify and change behaviors or ways of thinking that have not worked well for you.
- Counseling helps you develop decision making and coping skills needed to meet the challenges of living and learning.

Is my counseling confidential?

Yes, information you share in counseling sessions will be treated by the Counseling Center staff with strict confidentiality and is protected by state and federal laws. Information will not be disclosed to anyone outside the Center without your written permission except in rare instances when, in the judgment of your counselor, such disclosure is necessary to protect you or someone else from imminent danger.

If you wish to have appropriate information about your counseling shared with University faculty and staff, other treatment professionals, or concerned others, please ask your counselor about signing a Consent to Release Information form.



Counseling Center
Personal Counseling for UNI Students

103 Student Health Center

(319) 273-2676

8:00 a.m. to 5:00 p.m.
Monday through Friday
(Summer Hours: 7:30 a.m. to 4:30 p.m.)

www.uni.edu/counseling

Counseling Center
University Health Services
Division of Student Affairs
University of Northern Iowa



Counseling Center

Personal Counseling for UNI Students



UNIVERSITY OF NORTHERN IOWA

Who is eligible for counseling?

UNI students who have paid the Mandatory Health Fee are eligible for services.

Faculty and staff members may receive free, confidential counseling through the Employee Assistance Program by calling 1-800-327-4692.

How do I arrange to see a counselor?

1. Call the Counseling Center at 273-2676 to schedule an Initial Assessment appointment with a counselor.
2. At the time of your Initial Assessment appointment, you will complete intake forms and meet with a counselor.
3. In the Initial Assessment appointment, you and the counselor will explore your concerns, clarify your goals, and plan your counseling services.

There is no charge for counseling services, but there is a \$25 "no show" charge if you do not attend, cancel or reschedule your appointment in a timely manner.

Counseling Center Staff:

Counseling Center staff members specialize in providing counseling and psychological services to UNI college students. Staff members include Psychologists, Mental Health Counselors, and graduate students in formal training programs in Mental Health Counseling, Psychology, and Social Work.



Self-Help Information

VISIT OUR WEBSITE FOR:

- Information about our services
- Links to helpful web resources
- Anonymous on-line mental health screening

WWW.UNI.EDU/COUNSELING



Available Services

INDIVIDUAL COUNSELING: Meet with a counselor for regularly scheduled individual sessions, usually once a week or once every two weeks.

GROUP COUNSELING: Meet with other students and a counselor to discuss problems and concerns.

COUPLE COUNSELING: Only one member of the couple needs to be an eligible UNI student. Each member of the couple must first complete the Initial Assessment process.

CONSULTATION: Faculty, staff, and others concerned about a student may call the Counseling Center at 273-2676 and consult with a counselor about available services.

CRISIS COUNSELING: Counseling services are available to UNI students 24 hours a day/365 days a year.

During regular office hours, call the Counseling Center at 273-2676 to arrange an emergency appointment. After regular office hours, call the Counseling Center at 273-2676 and press 2 to speak to a counselor.

Certified suicide prevention hotlines are also available:

- Foundation 2 (1-800-332-4224)
- National Suicide Prevention Lifeline (1-800-273-8255)
- Veterans Crisis Line (1-800-273-8255 and Press 1)

For life threatening mental health emergencies, call 911 or go to the nearest hospital emergency department.

COUNSELING CENTER WORKSHOPS: Small group seminars focus on various life skills related to your emotional health (e.g., assertiveness, stress, relationships). Visit the Counseling Center website for a list of scheduled workshops or to request a workshop for your organization.

MEDICATION: A Psychiatrist and a Psychiatric Nurse Practitioner in the Student Health Clinic may prescribe medication for you when appropriate. Your counselor can assist you with a referral for a medication consultation. Prescriptions can be filled at the Student Health Clinic Pharmacy.

REFERRAL TO A COMMUNITY AGENCY: We provide referral information regarding appropriate community resources for students whose needs are beyond the scope of our services.

APPENDIX D
ADDITIONAL MATERIAL

Appendix D1. Recruitment for Permission to Conduct Research

Appendix D1. Recruitment for Permission to Conduct Research

Re: Permission to Conduct Research Study

Dear Varsity Coach,

As a graduate student in the department of athletic training at the University of Northern Iowa, I am conducting research as part of the requirements for a Master's degree. The purpose of my thesis research is to investigate the mental health literacy and help-seeking attitudes of undergraduate students and student-athletes at the University of Northern Iowa.

I am writing to request your permission to conduct my research during a team meeting with your athletes. Participants will be asked to complete surveys that will take approximately 10-15 minutes to complete. Participants will be presented with informed consent prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with a date and time of your choosing.

Sincerely,

Danielle Schuck

Graduate Assistant Athletic Trainer

schuckd@uni.edu

Re: Permission to Conduct Research Study

Dear Doctor/Professor,

As a graduate student in the department of athletic training at the University of Northern Iowa, I am conducting research as part of the requirements for a Master's degree. The purpose of my thesis research is to investigate the mental health literacy and help-seeking attitudes of undergraduate students and student-athletes at the University of Northern Iowa.

I am writing to request your permission to conduct my research with your students during one of your class times. Participants will be asked to complete surveys that will take approximately 10-15 minutes to complete. Participants will be presented with informed consent prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue at any time.

Thank you for considering my request. If you choose to grant permission, please respond to this email with a date and time of your choosing.

Sincerely,

Danielle Schuck

Graduate Assistant Athletic Trainer
schuckd@uni.edu

Appendix D2. Recruitment Script for Participants

My name is Danielle Schuck and I am a graduate student in athletic training at the University of Northern Iowa. I am inviting you to participate in a study that will look at undergraduate students and student-athletes' knowledge and beliefs about mental health disorders and help-seeking methods.

Your participation is voluntary and will involve completing a brief one-time survey. The survey will take approximately 10-15 minutes. I will not be asking for your name or any other identifying information. Once you have completed the survey, your participation in this study is done.

I have given everyone a consent form and survey. I will ask that you read over the consent form and if you choose to participate, turn the page and then complete the survey. I will collect all consent forms and surveys. If you do not want to participate, I simply ask that you leave the forms blank and turn them back to me.

If you have any questions, feel free to ask me now, after the meeting, or any other time.

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