Mental and Behavioral Health in Athletic Training Education: Current Educational Practices in Entry-Level, CAATE-Accredited Athletic Training Programs

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Abstract

Mental and behavioral health conditions impact thousands of people in the United States annually, including collegiate student-athletes. Athletic trainers are in an optimal position to identify and initiate care for those struggling with these conditions. The Commission on Accreditation of Athletic Training Education (CAATE) recognizes mental and behavioral health as a curricular content area that must be addressed in athletic training education. Standards 77 and 94 of the 2020 CAATE Standards provide entry-level, CAATE-accredited athletic training programs with the minimum required content specific to mental and behavioral health that must be taught to athletic training students. However, the CAATE provides athletic training programs with freedom to teach content beyond what is minimally required, and to use instructional and assessment methods that best serve each individual program.

Objectives: This research study investigated the educational practices used in entry-level, CAATE-accredited athletic training programs in the United States to prepare athletic training students to recognize and initiate care for mental and behavioral health needs of their patients. In addition to examining common practices of CAATE-accredited athletic training programs across the country, this study explored if program enrollment numbers and/or the type of institution (public or private) in which the program is housed significantly impacts educational practices.

Methodology: This non-experimental quantitative study utilized an email solicitation with an embedded link to an online survey. Seventy completed surveys (28.2% response rate) were received from the 248 entry-level, CAATE-accredited athletic training education program directors in the United States from August 7 to September 30, 2023.

Results: Common educational practices used to teach mental and behavioral health content were identified. On average, athletic training programs spend 33.8 hours of instructional time teaching

mental and behavioral health content. Program directors reported that content was frequently taught in didactic education (98%) through coursework in psychosocial and/or behavioral health (67.1%), general medical (45.7%), and emergency and immediate care (41.4%). Lecture (95.7%) was the most frequently reported engagement strategy used, followed by discussion-based learning (74.3%), problem-based learning (72.9%), and role-play (71.4%). Full-time faculty members (90.0%) were most frequently identified as the instructor for this content, followed by faculty members from mental and behavioral health education programs. To assess student knowledge, multiple-choice testing (90.0%) was the most frequently reported assessment strategy used. There was no statistically significant difference, however, in educational practices between public and private institutions. Similarly, there was no statistically significant relationship between the number of students enrolled in the program and the educational practices except for a weak, positive relationship with instructor type.

Conclusion: Students across the United States are receiving similar education related to content areas addressed, instructors and resources used, time spent, and delivery, engagement, and assessment strategies used to teach mental and behavioral health content regardless of the type of institution or size of the program. However, because it is challenging to provide students with real-time patient-care opportunities, program faculty should utilize simulations that mimic real-world experiences to prepare students to identify and initiate care for patients struggling with mental and behavioral health concerns.

Keywords: mental and behavioral health, athletic training, education

Table of Contents

Abstract 2

Table of Contents 4

List of Tables 7

List of Figures 8

List of Abbreviations 9

Chapter 1: Mental and Behavioral Health in Athletic Training Education: 10

Current Educational Practices in Entry-Level, CAATE-Accredited Athletic Training Programs

Purpose of the Research 12

Research Questions and Hypotheses 12

Implications of the Research 21

Organization of the Study 21

Chapter 2: Review of the Literature 23

Mental and Behavioral Health 24

Epidemiology in the United States 26

Epidemiology in College Students 28

Epidemiology in Collegiate Student-Athletes 30

Seminal Documents 35

Inter-Association Consensus Document: Mental Health Best Practices 35

NATA Consensus Statement: Psychological Concerns 38

NATA Position Statement: Disordered Eating 41

NCAA Drug-Testing Program 42

The Application of Recommendations 43

The Role of Athletic Trainers With Mental and Behavioral Health 44
Athletic Trainers' Confidence 47
Athletic Training Education 49
Gaps in the Literature 53
Theoretical Framework 54
Constructivist Theory in Athletic Training 55
Chapter 3: Methodology 57
Study Design 57
Target Population 57
Inclusion 58
Exclusion 58
Sample Size 59
Instrumentation 59
Modification Procedures 59
Content Validity 61
Data Collection 61
Data Analysis 62
Institutional Review Board 62
Limitations 63
Delimitations 63
Assumptions 64
Chapter 4: Results 65
Sample 65

Recruitment Strategies 65

Demographics 66

Results of the Study 68

Descriptive Analysis 68

Inferential Statistical Analysis 77

Themes of Open Response Questions 84

Summary of Results 85

Chapter 5: Discussion 88

Recommendations for Education 92

Recommendations for Future Research 93

Conclusion 94

References 95

Appendices

Resource Checklist for Mental Health Care 106

Older Adult Curriculum in Physical Therapy Education Questionnaire 109

Email Correspondence 114

Mental and Behavioral Health Curriculum in Athletic Training 115

Education Questionnaire

Codebook 122

Data Analysis Table 130

Institutional Review Board Study Approval Letter 140

Informed Consent 141

List of Tables

Table 1 Percentage of NCHA Respondents That Have Been Diagnosed With a Mental Health Condition 29

Table 2 Percentage of Male and Female Respondents That Expressed Emotional Concern 31

Table 3 Percentage of Participants That Responded “Constantly” or “Most Every Day” in the Fall of 2021 32

Table 4 Percentage of Participants That Identified on the Queer-Spectrum That Responded “Within the Last Month” During Fall of 2021 32

Table 5 NCAA Drug Testing Program Banned Substances Classes 43

Table 6 Athletic Training Program Demographics 67

Table 7 Demographics of Athletic Training Programs From Public Institutions 67

Table 8 Demographics of Athletic Training Programs From Private Institutions 68

Table 9 Frequency of Content Areas 69

Table 10 Frequency of Instructional Category Used 71

Table 11 Amount of Instructional Time 72

Table 12 Frequency of Assessment Strategies 74

Table 13 Frequency of Instructor Type 74

Table 14 Frequency of Engagement Strategies 75

Table 15 Frequency of Resources Used 77

List of Figures

Figure 1 Frequency of Curriculum Areas 73

List of Abbreviations

ACHA .....American College Health Association

AMI.....Any Mental Illness

AMA .....American Medical Association

APA.....American Psychiatric Association

BIPOC.....Black, Indigenous, (and) People of Color

BOC .....Board of Certification

CAATE .....Commission on Accreditation of Athletic Training Association

CDC .....Centers for Disease Control and Prevention

DSM.....Diagnostic and Statistical Manual of Mental Disorders

MHEAMP .....Mental Health Emergency Action and Management Plan

NATA .....National Athletic Trainers' Association

NCAA .....National Collegiate Athletic Association

NCHA .....National College Health Assessment

NIH .....National Institutes of Health

NIMH.....National Institute of Mental Health

PPE.....Pre-participation Physical Examination

SAMHSA.....Substance Abuse and Mental Health Services Administration

SMI .....Serious Mental Illness

SUD.....Substance Use Disorder

U.S. .....United States

Chapter 1

Mental and Behavioral Health in Athletic Training Education: Current Educational Practices in Entry-Level, CAATE-Accredited Athletic Training Programs

Over the years, there has been an increase in the incidence of mental and behavioral health concerns among Americans (Centers for Disease Control and Prevention [CDC], 2021a; Terlizzi & Schiller, 2022). Currently, 1 in 5 adults over the age of 18 in the United States (U.S.) live with a mental illness (CDC, 2021a; National Institute of Mental Health [NIMH], 2023b). Young adults between the age of 18-25 years old are of particular concern. Data from 2021 indicated that 18–25-year-old adults had the highest prevalence of mental illness, yet received less treatment compared to adults over the age of 26 (NIMH, 2023b).

In addition to the high prevalence of mental and behavioral health conditions during young adulthood, the onset of these conditions is often experienced during college (American Psychiatric Association [APA], 2023b). While college can be an exciting time for many young adults, for some, the various transitions and changes can have a negative impact (Lopes Dos Santos et al., 2020; National Collegiate Athletic Association [NCAA] Multidisciplinary Task Force, 2020). For the traditional college student, moving away from home, living with roommates, and facing greater responsibilities and expectations associated with adulthood are experienced for the first time (Pedrelli et al., 2015). Moreover, collegiate student-athletes are faced with the same normal stressors of college, in addition to the pressures and expectations associated with being a student-athlete (Auerbach & Stokowski, 2020; Lopes Dos Santos et al., 2020; NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013).

Much like their non-athlete peers, collegiate student-athletes also experience mental and behavioral health concerns (Edwards et al., 2021; NCAA, 2022b; NCAA Multidisciplinary Task

Force, 2020; Neal et al., 2013). In a recent survey by the NCAA, collegiate student-athletes reported increased rates of mental exhaustion, anxiety, and feelings of depression during the fall of 2021 compared to previous years (NCAA, 2022b). Additionally, behavioral health concerns including eating disorders and substance use are also experienced by collegiate student-athletes (Bonci et al., 2008; NCAA, 2018). Because these mental and behavioral health concerns are prevalent among this population, those involved with the day-to-day function of intercollegiate athletics must be aware of the signs and symptoms and be prepared to act (Multidisciplinary Task Force, 2020; Neal et al., 2013).

Athletic trainers are in an optimal position to recognize and initiate care for those struggling with mental and behavioral health concerns (Granquist & Kenow, 2015; NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013). Unlike other medical professionals, athletic trainers working with intercollegiate athletics provide daily health care for collegiate student-athletes during the competitive season (Granquist & Kenow, 2015). Because of the significant time spent together and the rapport built between the student-athletes and athletic trainer, athletic trainers are often privy to information others may never become aware of (Granquist & Kenow, 2015). In some instances, the athlete themself, or a teammate or coach, may inform the athletic trainer of mental or behavioral health concerns. While athletic trainers are not legally able to diagnose and treat these conditions due to their scope of practice, they are in an optimal position to identify and initiate care for those that are experiencing these concerns (Gransquist & Kenow, 2015; NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013).

Both the Board of Certification (BOC), the credentialling body of athletic training, and the Commission on Accreditation of Athletic Training Education (CAATE), the accrediting body of athletic training education, recognize mental and behavioral health as a content area in which

entry-level athletic trainers must be competent (BOC, 2021; CAATE, 2022). Therefore, the CAATE requires accredited, entry-level athletic training programs to educate and prepare students to identify, refer, and support patients with mental and behavioral health conditions (CAATE, 2022). In Section IV: *Curricular Content* of the 2020 CAATE Standards, standard 77 and 94 explicitly address mental and behavioral health content (CAATE, 2022). The 2020 CAATE Standards provide athletic training program administrators with the content areas that must be taught within entry-level, CAATE-accredited programs; however, the Standards provide programs with freedom to determine what additional content will be taught beyond what is minimally required, how the content is delivered, where the content is housed within the curriculum, and how the content is assessed.

Purpose of the Research

The purpose of this research was to examine the preparation and educational practices used in entry-level, CAATE-accredited athletic training programs in the United States to prepare athletic training students to recognize and initiate care for the mental and behavioral health needs of their patients. In addition to examining common practices across the country, this study explored if program enrollment numbers and the type of institution (public or private) in which the program is housed significantly impacts the educational practices used to prepare athletic training students to recognize and initiate care for mental and behavioral health needs of their patients.

Research Questions and Hypotheses

The primary research questions and hypotheses are:

Q1: What content areas, beyond what is minimally required, related to mental and behavioral health are being taught in entry-level, CAATE-accredited athletic training programs in the United States?

- Q1a: Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly different based on the type of institution?
  - Q1aH: The number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on institution type.
  - Q1aH0: The number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on institution type.
- Q1b: Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly related to the number of students enrolled in the program?
  - Q1bH: The number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.

- Q1bH0: The number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q2: What are the most frequently used instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q2a: Will the number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q2aH: The number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q2aH0: The number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q2b: Will the number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q2bH: The number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in

the United States will be significantly related to the number of students enrolled in the program.

- Q2bH0: The number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q3: How much instructional time is devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q3a: Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q3aH: Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q3aH0: Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q3b: Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q3bH: Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.

- Q3bH0: Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q4: Where in the curriculum is the mental and behavioral health content being addressed within entry-level, CAATE-accredited athletic training programs in the United States?

- Q4a: Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q4aH: The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q4aH0: The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q4b: Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q4bH: The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training

programs in the United States will be significantly related to the number of students enrolled in the program.

- Q4bH0: The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q5: What strategies are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q5a: Will the number of strategies that are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q5aH: The number of strategies used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q5aH0: The number of strategies used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q5b: Will the number of strategies that are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q5bH: The number of strategies used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the

United States will be significantly related to the number of students enrolled in the program.

- Q5bH0: The number of strategies used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q6: Who is teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q6a: Will the number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q6aH: The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q6aH0: The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q6b: Will the number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q6bH: The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the

United States will be significantly related to the number of students enrolled in the program.

- Q6bH0: The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q7: What student engagement strategies are being utilized to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q7a: Will the number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q7aH: The number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q7aH0: The number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.
- Q7b: Will the number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic

training programs in the United States be significantly related to the number of students enrolled in the program?

- Q7bH: The number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.
- Q7bH0: The number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Q8: What resources are being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

- Q8a: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?
  - Q8aH: The number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.
  - Q8aH0: The number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly different based on the type of institution.

- Q8b: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?
  - Q8bH: The number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.
  - Q8bH0: The number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will not be significantly related to the number of students enrolled in the program.

Implications of the Research

The research questions sought to identify the frequently utilized educational practices to prepare athletic training students concerning mental and behavioral health content. Data analysis also sought to identify differences based on institution type and relationships based on program enrollment numbers in the topics covered, instructional and assessment strategies used, resources utilized, instructional time spent, and location within the curricula. With the rise of mental and behavioral health concerns among collegiate student-athletes, adequate preparation of athletic training students is necessary as they will become future clinicians caring for these patients.

Organization of the Study

This study will be organized into five chapters. This first chapter provided a brief introduction to the study. The second chapter will provide a thorough review of the current literature related to mental and behavioral health epidemiology, seminal documents related to

mental and behavioral health in athletic training, the role of the athletic trainer when managing mental and behavioral health concerns, and educational preparation. The third chapter will explain the methodology for this study. The fourth chapter will present the findings of this study as it relates to the research questions. Finally, the fifth chapter will interpret the findings of this study and present recommendations and draw conclusions based on the findings of this research.

Chapter 2

Review of the Literature

In recent years, the prevalence of mental and behavioral health conditions in the United States has been on the rise. Individuals between the ages of 18-25 are of particular interest. The literature indicates that this group has the highest prevalence of mental and behavioral health concerns, yet they receive the least amount of treatment compared to other age groups (NIMH, 2023b). This age is also significant because it is during this time that individuals often exhibit their first signs of mental and behavioral health conditions (American Psychiatric Association [APA], 2023b; Pedrelli et al., 2015), and it is a time of transition into adulthood. Some of these young adults leave home for the first time and go away to college and, while this is an exciting time in life, this can also be a stressful time (Lopes Dos Santos et al., 2020; Pedrelli et al., 2015). Compounded with the normal stressors of this significant transition, collegiate student-athletes are faced with additional pressures and expectations.

During the 2021-2022 academic year, 522,165 student-athletes participated in National Collegiate Athletic Association sponsored sports (NCAA, 2023). Like their non-athlete peers, collegiate student-athletes are experiencing higher rates of mental and behavioral health concerns than previous years (Edwards et al., 2021; NCAA, 2022b; NCAA Multidisciplinary Task Force, 2020). Because of their daily role in providing medical care to collegiate student-athletes, athletic trainers must be able to identify, intervene, and refer individuals with mental and behavioral health concerns (BOC, 2021; CAATE, 2022; Granquist & Kenow, 2015; NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013).

The purpose of this literature review is to define key terms, provide epidemiological data, introduce seminal documents, discuss clinical athletic trainers' experiences with, and introduce the CAATE standards addressing educational practices related to mental and behavioral health.

Mental and Behavioral Health

Mental health is the combination of an individual's overall emotional, psychological, and social well-being (CDC, 2021a). It can be negatively impacted if the demands placed on an individual exceed their ability to cope, leading to poor mental health (CDC, 2021a). While poor mental health and mental illness are often used interchangeably, they are not the same. An individual may be in a state of poor mental health when they are experiencing significant life stressors such as relational problems, injury or illness, or job loss; however, a person with a mental illness has an associated diagnosis made by a mental health professional (CDC, 2021a). While there isn't one single cause for mental illness, there are several risk factors, including early adverse life events, experiences related to chronic medical conditions, biological factors, alcohol or drug use, and feelings of loneliness or isolation (CDC, 2021a; Walton et al., 2021).

More broadly, behavioral health refers to mental health and substance use disorders, life stressors and crises, and stress-related physical symptoms (American Medical Association [AMA], 2022; Lubotsky Levin & Hanson, 2020). The American Psychiatric Association also includes maladaptive health behaviors such as lack of exercise and poor diet in their definition of behavioral health (APA, 2023a). For this research, behavioral health will refer specifically to substance use and eating disorders because they are explicitly mentioned in the CAATE Standards that address this educational content.

Substance use disorder (SUD) is a mental health disorder that affects a person's brain and behavior, leading to the inability to control their use of various kinds of drugs (NIMH, 2023c).

The most severe form of SUD is dependence (NIMH, 2023c). Eating disorders are often believed to be lifestyle choices, but they are much more serious than that (NIMH, 2023a). They are associated with severe disturbances in eating behavior related to thoughts and emotions (NIMH, 2023a). Like most mental illnesses, behavioral health conditions such as these have several risk factors and associated causes (NIMH, 2023a; NIMH, 2023c).

The APA developed and published the Diagnostic and Statistical Manual of Mental Disorders (DSM) to explain the signs and symptoms associated with hundreds of mental and behavioral health conditions (Horwitz, 2021). The DSM provides psychiatrists, psychologists, and other mental health professionals with the criteria needed to make a diagnosis based on the nature, duration, and impact of the associated signs and symptoms (Horwitz, 2021). Additionally, the DSM provides information related to the typical course of the disorder, associated risk factors, and common co-existing conditions (Horwitz, 2021). While each condition has distinguishing signs and symptoms, common indicators of mental illness include changes in personality, altered eating and/or sleeping patterns, inability to cope with stress, excessive anxiety, prolonged sadness, thoughts of harming themselves or others, extreme mood swings, and excessive violent behavior (Mayo Clinic, 2021).

Mental illnesses and behavioral health conditions can vary in severity and impact. The National Institute of Mental Health (NIMH) states that a mental illness may range from no impairment to severe impairment (NIMH, 2023b). Some individuals with mental illness may be able to proceed with normal life; however, those with serious mental illness (SMI) may have significant functional impairments that interfere with one or more major life activities (NIMH, 2023b). Common mental illnesses impacting Americans include anxiety disorders, depression,

bipolar disorder, post-traumatic stress disorder, schizophrenia, eating disorders, disruptive behavior disorders, and neurodevelopment disorders (World Health Organization, 2022).

Self-care is an essential element of managing mental and behavioral health. Getting regular exercise, eating healthy and regular meals, getting adequate sleep, engaging in relaxing activities, practicing gratitude, focusing on the positive, setting goals, and staying connected with others are all positive self-care practices (NIMH, 2022; Rupert & Dorociak, 2019). These practices are not a cure for these conditions; rather, they are positive coping techniques that are used to help manage mental and behavioral health (NIMH, 2022). For individuals diagnosed with a mental illness, substance use disorder, or eating disorders, seeking professional help from a clinical psychologist, psychiatrist, licensed counselor, or clinical social worker may be necessary. For these individuals, treatments like psychotherapy, medications, and support groups may be incorporated into the patient's treatment plan (Mental Health America, 2023).

Epidemiology in the United States

During 2021, an estimated 22.8% of adults over the age of 18 were living with any mental illness (AMI) in the United States (NIMH, 2023b). The prevalence of AMI was higher among females (27.2%) than males (18.1%), and among adults aged 18-25 (33.7%) compared to other age groups (NIMH, 2023b). During the same year, an estimated 5.5% of adults over the age of 18 in the United States had diagnosed SMI (NIMH, 2023b). Like AMI, there was a higher prevalence of SMI in females (7.0%) compared to males (4.0%), and young adults 18-25 years old (11.4%) compared to other age groups (NIMH, 2023b). Two of the most common mental illnesses experienced by Americans are depression and anxiety. In 2021, 11.3% of adults over 18 years of age had regular feelings of worry, nervousness, or anxiety, and 4.5% had regular feelings of depression (National Center for Health Statistics, n.d.). One of the most concerning

facts is that between 2018 and 2021, suicide ranked within the top 15 causes of death in the United States (CDC, 2021b).

In addition to depression and anxiety, behavioral health concerns like substance use and misuse are also of concern. In 2020, an estimated 22.2% of adults over the age of 18 in the United States used illicit drugs during the year and 52.9% used illicit drugs at some point during their life (Substance Abuse and Mental Health Services Administration [SAMHSA], 2022). During that year, drug use was highest among adults 18-25 years old (National Center for Drug Abuse Statistics, 2023). Of these young adults, 37% used illicit drugs within the year and 53.4% used illicit drugs during their lifetime (SAMHSA, 2022). The data revealed that marijuana was the most used illicit drug by 18-25-year-old adults, followed by misused stimulants (SAMHSA, 2022). Illicit drug use by males (36.3%) and females (37.7%) in this age group was similar (SAMHSA, 2022). Prevalence data on the use of tobacco products, vaping, and alcohol consumption were also collected for this population (SAMHSA, 2022). During 2020, 28.8% used tobacco products, 18.1% vaped, and 69.5% consumed alcohol (SAMHSA, 2022). A higher percentage of males ages 18-25 used tobacco products and vapes, but a greater percentage of females consumed alcohol (SAMHSA, 2022). During 2020, 24.4% of adults 18-25 years old were diagnosed with SUD for either illicit drugs or alcohol (SAMHSA, 2022).

Prevalence of eating disorders is not as easily accessible because many people with eating disorders are either never formally diagnosed or seek treatment (Hart et al., 2011). Hudson et al. (2007) analyzed data from the National Comorbidity Survey Replication (NCS-R) that collected data from February 2001 to December 2003. The survey indicated the estimated lifetime prevalence of anorexia nervosa, bulimia nervosa, and binge eating disorder of 0.6%, 1.0%, and 2.8%, respectively (Hudson et al., 2007). The data revealed that the lifetime

prevalence of these eating disorders was consistently higher in females compared to males, and the average age of onset of eating disorders according to this survey was 18-21 years old (Hudson et al., 2007).

Epidemiology in College Students

Because the prevalence of mental and behavioral health concerns is highest in young adults, special attention should be given to college students. Pedrelli et al. (2015) stated that the number of young adults entering college with a mental health condition is rising. As part of the American College Health Association's (ACHA) national survey, the National College Health Assessment (NCHA), several questions address mental and behavioral health among college students (ACHA, 2022). The NCHA utilized the Kessler 6 Psychological Distress Scale, which is an instrument used to assess risk of mental illness in a general population (Kessler et al., 2002). In 2021, 27.2% of college students scored psychological distress as low or none, 50.8% moderate, and 22.0% serious (ACHA, 2022). When asked to rate the overall level of stress experienced within the last 30 days, 1.6% of college students responded no stress, 19.5% responded low stress, 48.7% responded moderate stress, and 30.2% responded high stress (ACHA, 2022). These measures indicate that most college students that participated experienced moderate to high levels of stress and distress; however, the survey does not define either of these terms.

In addition, the NCHA asked college students to indicate any diagnosed mental health conditions, which can be seen in Table 1. In 2021, depression and anxiety were the two most diagnosed conditions among respondents (ACHA, 2022). Furthermore, 17.8% reported being diagnosed with both depression *and* anxiety (ACHA, 2022). Suicide and self-injury are also concerns in this population. When ask about self-injury and suicide within the last 12 months,

9.6% of college students surveyed indicated they had intentionally self-injured and 2.7% stated they had attempted suicide, with trans/gender non-conforming participants having the highest percentage for both (ACHA, 2022).

Table 1

Percentage of NCHA Respondents That Have Been Diagnosed With a Mental Health Condition

Condition	Students	Males	Females	Trans/Non-conforming
Attention Deficit/Hyperactivity Disorder	10.2%	9.5%	9.4%	23.9%
Alcohol or Other Drug-Related Abuse/Addiction	1.1%	1.2%	1.0%	2.5%
Anxiety	27.4%	14.3%	34.0%	54.1%
Autism Spectrum	1.7%	2.0%	0.8%	8.6%
Bipolar and Related Conditions	1.9%	1.2%	1.9%	6.4%
Borderline Personality Disorder or Other Personality Disorders	1.0%	0.4%	1.1%	4.3%
Depression	21.7%	12.5%	25.5%	50.0%
Eating Disorders	4.9%	1.1%	6.9%	12.5%
Gambling Disorder	0.1%	0.2%	0.0%	0.8%
Insomnia	5.3%	3.2%	6.0%	14.0%
Obsessive-Compulsive and Related Conditions	4.6%	2.4%	5.4%	13.3%
Post-Traumatic Stress Disorder	5.6%	2.1%	6.8%	18.6%
Schizophrenia and Other Psychotic Conditions	0.3%	0.2%	0.2%	1.7%
Tourette's or other Neurodevelopmental Conditions	0.4%	0.3%	0.3%	1.4%
Traumatic Brain Injury	1.1%	0.9%	1.0%	2.7%

Note. This table was adapted from the Fall 2021 NCHA (ACHA, 2022).

In the 3 months prior to participating in the 2021 NCHA, alcohol (63.0%), nonmedical-use cannabis (23.3%), and tobacco or nicotine delivery products (19.3%) were the most frequently used drugs (ACHA, 2022). When asked about their last consumption of alcohol, 52.2% indicated they consumed alcohol within the last 2 weeks and 8.3% indicated more than 30 days but within the last 3 months (ACHA, 2022). The data revealed the highest percentage of alcohol consumption within 3 months in females (68.1%), followed by trans/gender non-

conforming (61.3%), then males ([60.5%], ACHA, 2022). In the three months prior to taking the survey, cannabis use was highest in trans/gender non-conforming participants (34.2%), followed by females (24.9%), and males ([21.2%], ACHA, 2022). However, when comparing the use of tobacco products, 21.4% of males used tobacco products within the last 3 months compared to 18.8% of females and 18.4% of trans/gender non-conforming participants (ACHA, 2022). The proportion of students who reported misusing prescription medications was also collected. Stimulants were most often misused, followed by sedatives and prescription opioids (ACHA, 2022).

The NCHA identified the percentage of students that took the survey that reported ever being diagnosed with an eating disorder. A total of 4.9% of students responded that they have been diagnosed with an eating disorder at some point in their life (ACHA, 2022). When compared by gender, 12.5% of trans/gender non-conforming participants reported being diagnosed with an eating disorder compared to 6.9% of females and 1.1% of males (ACHA, 2022). Of the individuals that have a diagnosed eating disorder, 52.7% reported that they had contact with a health care provider or mental health provider within the last year (ACHA, 2022).

Epidemiology in Collegiate Student-Athletes

Like their non-athlete college peers, collegiate student-athletes also struggle with mental and behavioral health conditions (NCAA, 2022b). In a retrospective investigative study of the 2011-2019 NCHA survey, Edwards et al. (2021) found that collegiate student-athletes reported mental health symptoms and diagnoses at lower rates than non-athletes; however, over time, both groups showed increases in reported mental health diagnoses (Edwards et al., 2021).

The NCAA research team, in collaboration with the NCAA Sport Science Institute and Student-Athlete Advisory Committees from Division I, II, and III, designed and distributed a

survey examining the experiences and well-being of 9,808 NCAA student-athletes (NCAA, 2022b). The NCAA Student-Athlete Well-Being Study specifically focused on collegiate student-athlete well-being related to the COVID-19 pandemic; however, these findings are still significant, since the impact of the pandemic is still being felt today. The fall 2021 survey revealed elevated levels of mental health concerns for collegiate student-athletes compared to previous years (NCAA, 2022b). While participants experienced lower levels of hopelessness compared to 2020, mental exhaustion, anxiety, and depression remained relatively unchanged (NCAA, 2022b). The percentage of male and female respondents that expressed emotional concerns can be found in Table 2. One finding of particular importance was the rate of reported mental health concerns experienced within the month prior to taking the survey was 1.5-2 times higher than what had been reported prior to the pandemic (NCAA, 2022b).

Table 2

Percentage of Male and Female Respondents That Expressed Emotional Concern

	Females	**Males**
Felt mentally exhausted	38%	22%
Experienced sleep difficulties	28%	19%
Felt overwhelming anxiety	29%	12%
Felt sad	19%	11%
Felt a sense of loss	11%	8%
Felt things were hopeless	10%	6%

Note. This table was adapted from the Fall 2021 NCAA Student-Athlete Well-Being Study (NCAA, 2022b).

Higher rates of mental distress were associated with women, student-athletes of color, and student-athletes that identified on the queer-spectrum (NCAA, 2022b). In every category except one, male and female collegiate student-athletes that identified as Black, indigenous, and people of color (BIPOC) had a higher percentage of participants endorsing the mental health concerns either “constantly” or “most every day,” as shown in Table 3 (NCAA, 2022b).

However, the demographic that reported the greatest percentage of mental health concerns were student-athletes on the queer-spectrum, as seen in Table 4 (NCAA, 2022b).

Table 3

Percentage of Participants That Responded "Constantly" or "Most Every Day" in the Fall of 2021

	BIPOC Males	White Males	BIPOC Females	White Females
Felt overwhelmed by all you had to do	26%	24%	46%	47%
Experienced sleep difficulties	21%	18%	33%	27%
Felt mentally exhausted	24%	21%	42%	37%
Felt very lonely	15%	9%	21%	15%
Felt a sense of loss	10%	7%	14%	10%
Felt sad	11%	10%	23%	18%
Felt overwhelming anxiety	11%	12%	29%	29%
Felt overwhelming anger	9%	6%	10%	7%
Felt things were hopeless	8%	5%	14%	9%
Felt so depressed it was difficult to function	8%	5%	13%	8%

Note. This table was adapted from the Fall 2021 NCAA Student-Athlete Well-Being Study (NCAA, 2022b).

Table 4

Percentage of Participants That Identified on the Queer-Spectrum That Responded "Within the Last Month" During Fall 2021

	Queer-Spectrum Men	Queer-Spectrum Female
Felt overwhelmed by all you had to Do	91%	95%
Felt mentally exhausted	85%	92%
Felt sad	73%	89%
Felt very lonely	74%	72%
Felt things were hopeless	55%	71%
Felt overwhelming anxiety	68%	82%
Felt overwhelming anger	35%	49%
Felt so depressed that it was difficult to function	44%	58%

Note. This table was adapted from the Fall 2021 NCAA Student-Athlete Well-Being Study (NCAA, 2022b).

Eating disorders and disordered eating patterns are common among collegiate student-athletes, but the extent of their prevalence remains unclear due to a lack of standardized assessment tools, unclear definitions, and undiagnosed conditions (Bonci et al., 2008). Yet, the available literature reveals that these conditions are more prevalent in female collegiate student-athletes compared to male (Bonci et al., 2008; Thompson, n.d.). Specific sports tend to have higher prevalence of eating disorders, especially those that have perceived benefits of being thin or having a low body weight to enhance performance, or is a part of judging performance (Bonci et al., 2008; Thompson, n.d.). Endurance sports that commonly impose body-weight goals to enhance performance include distance running, swimming, and cross-country skiing. However, for males, there seems to be a higher prevalence in sports that are weight-class dependent or place greater emphasis on aesthetics (Bonci et al., 2008). Wrestling, in particular, became a sport of concern after three athletes died from extreme and unsafe methods to "cut" weight (Bonci et al., 2008).

The NCAA conducts national studies on substance use habits in collegiate student-athletes on a quadrennial basis (NCAA, 2018). In the most recent study that occurred in 2017, a survey was sent out to NCAA member institutions inviting one to three teams to participate from each school (NCAA, 2018). Surveys were administered by each institution's Faculty Athletic Representative (NCAA, 2018). Data was collected from 23,028 NCAA collegiate student-athletes (NCAA, 2018). When asked about substance use habits within the year prior to taking the survey, 77.1% of respondents indicated that they had consumed alcohol, 24.7% indicated marijuana use, and 13.4% indicated spit tobacco use (NCAA, 2018). Alcohol use was slightly

less when compared to previous years (NCAA, 2018). Division III collegiate student-athletes reported the highest rate of alcohol consumption (81%), followed by Division I (75%) and Division II ([74%], NCAA, 2018). When the data was broken down further, the results revealed that 36% of collegiate student-athletes reported drinking on a weekly basis and roughly 2% reported drinking daily (NCAA, 2018). Binge drinking, defined as drinking four or more drinks for women and five or more drinks for men in one sitting, has decreased since 2009; however, 42% of all participants reported they engaged in binge drinking (NCAA, 2018). Sports that reported the highest rates of binge drinking were lacrosse, hockey, and swimming (NCAA, 2018).

Marijuana use, as the second most used drug by NCAA student-athletes, was highest among men's (50%) and women's (34%) lacrosse, and was most used by Division III student-athletes (NCAA, 2018). Finally, spit tobacco, as the third highest reported drug used, was most used by men's ice hockey (46%) and baseball (44%), with nearly 20% of student-athletes from each sport reporting that they used it daily (NCAA, 2018). Performance enhancing drugs are also associated with athletics; however, according to this same study, less than 1% used testosterone boosting drugs, and the use of other performance enhancing drugs was even less than that (NCAA, 2018). Of dietary supplements that could be considered performance enhancers, the most used in this study were multivitamins (41.4%), protein products (41.5%), energy drinks (31.1%), and pre-workout products ([22.6%], NCAA, 2018).

Suicide among collegiate student-athletes is another area of concern. In a 2015 retrospective cohort study over a 9-year period, 35 cases of suicide were identified from 477 collegiate student-athlete deaths (Rao et al., 2015). The overall suicide rate was 0.93/100,000 per year and represented 7.3% of student-athlete deaths (Rao et al., 2015). In this study, the annual

incidence of suicide was higher in males than females, and African Americans compared to White (Rao et al., 2015). Of all sports, American football had the highest rate of death by suicide (Rao et al., 2015). The same 9-year retrospective study indicated that 10 collegiate student-athletes died by drug overdose and three died because of alcohol intoxication (Rao et al., 2015). Due to the upward trend of these concerns, the NCAA and National Athletic Trainers' Association (NATA) have taken steps to provide care for and management of mental and behavioral health concerns in student-athletes.

Seminal Documents

Inter-Association Consensus Document: Mental Health Best Practices

In November 2013, the NCAA convened a multidisciplinary task force to draft best practices to address mental health concerns in the NCAA student-athlete experience (NCAA Multidisciplinary Task Force, 2020). The purpose of this document was to provide athletics and sports medicine departments with recommendations for supporting and promoting student-athlete mental health (NCAA Multidisciplinary Task Force, 2020). The four key components addressed in this document include clinical licensure of practitioners providing mental health care, procedures for identification and referral of student-athletes to qualified practitioners, pre-participation mental health screening, and health-promoting environments that support mental well-being and resilience (NCAA Multidisciplinary Task Force, 2020).

Of utmost importance was the identification of clinically licensed mental health professionals to refer student-athletes for evaluation and treatment (NCAA Multidisciplinary Task Force, 2020). These licensed mental health professionals may be employed by the institution or be located off campus; however, they must be easily accessible to student-athletes

through an established referral process (NCAA Multidisciplinary Task Force, 2020). Referrals may occur spontaneously or be a part of a planned intervention (Granquist & Kenow, 2015).

Spontaneous referrals may occur because the collegiate student-athlete is in immediate danger or as a natural next step of care (Granquist & Kenow, 2015). Planned referrals, or routine referrals, occur at a specified place and time because of observed signs and symptoms (Granquist & Kenow, 2015). Granquist and Kenow (2015) outlined a five-step process for referring a student-athlete, which includes assessment, consultation, trial intervention, referral, and follow-up. During the assessment, the athletic trainer considers the student-athlete's signs and symptoms to determine potential needs (Granquist & Kenow, 2015). The athletic trainer then consults with the identified licensed mental health professional to discuss the case and gain guidance for the appropriate course of action (Granquist & Kenow, 2015). The licensed professional may recommend intervention strategies for the athletic trainer to incorporate to help the student-athlete manage the situation and alleviate distress (Granquist & Kenow, 2015). Depending on the outcome, the athletic trainer might initiate the referral process by engaging in a conversation with the student-athlete and begin the process of scheduling an appointment with a mental health professional (Granquist & Kenow, 2015). Finally, the athletic trainer should follow up with the student-athlete and possibly the licensed professional if appropriate permission has been given (Granquist & Kenow, 2015).

In addition to an established referral network, athletic and sports medicine departments must develop written institutional procedures for the management of emergency mental health care and routine mental health referral (NCAA Multidisciplinary Task Force, 2020). A Mental Health Emergency Action and Management Plan (MHEAMP) should be available to all individuals involved in caring for collegiate student-athletes, including coaching staff (NCAA

Multidisciplinary Task Force, 2020). The MHEAMP must include information about situations and criteria that warrant immediate referral, the specific roles in managing crisis situations, and how to approach an individual in an emergency mental health situation (NCAA Multidisciplinary Task Force, 2020). Additionally, written protocols for routine mental health referrals must be in place. The protocol should identify the point person, which is usually the head athletic trainer or team physician, to facilitate the referral process (NCAA Multidisciplinary Task Force, 2020).

To identify at-risk student-athletes, mental health screening during pre-participation physical exams (PPE) is recommended using validated questionnaires to screen for conditions like disordered eating, depression, anxiety, substance abuse, and sleep disorders among collegiate student-athletes (NCAA Multidisciplinary Task Force, 2020). When student-athletes are identified as "at-risk," the identified point person for a routine referral must initiate the referral process. Finally, athletic and sports medicine departments should create an environment that supports psychological well-being and destigmatizes mental health care in collegiate athletics (NCAA Multidisciplinary Task Force, 2020). Providing student-athletes, coaches, and other athletic department staff with educational information and resources is one approach to accomplishing this. Student-athletes should receive information about self-care, stress management, signs and symptoms of mental health disorders, and resources and programs available to them (NCAA Multidisciplinary Task Force, 2020). For coaches and other athletic department personnel, information should include suicide prevention training, signs and symptoms of mental health disorders, information about sexual assault and interpersonal violence, and strategies for developing a positive team culture (NCAA Multidisciplinary Task Force, 2020).

The NCAA Mental Health Best Practices document is available and applicable to all NCAA institutions regardless of size and resources. As part of the document, a Resource Checklist for Mental Health Care was included to help athletic trainers, team physicians, and other licensed practitioners incorporate these best practices within their individual institutions (NCAA Multidisciplinary Task Force, 2020). This checklist can be found in Appendix A.

NATA Consensus Statement: Psychological Concerns

In addition to the recommended practices noted in the NCAA Mental Health Best Practices document, athletic trainers and other key individuals within the institution must be aware of the practices recommended in the NATA Consensus Statement. The purpose of the NATA Consensus Statement is to provide recommendations for developing a plan to address psychological concerns within collegiate athletics (Neal et al., 2013). The Consensus Statement was written by a multidisciplinary group of professionals from 10 national organizations and an attorney with experience in sports medicine and health related litigation, to provide recommendations for the athletic health care team, athletic department administration, and university administration (Neal et al., 2013).

The Consensus Statement was designed to educate athletic trainers, coaches, and administrators on the prevalence of mental illnesses in collegiate athletics, provide recommendations for recognizing concerns and developing a referral system, and present legal considerations and risk management strategies (Neal et al., 2013). The 10 purposes of this document are as follows (Neal et al., 2013, pp.7-8):

1. To provide essential information on mental illness in young adults.
2. To provide information on stressors unique to student-athletes, and examples of "triggers" that may create or exacerbate an existing mental disorder.

3. To provide appropriate information for recognizing potential psychological concerns in student-athletes through behaviors to monitor.
4. To review special considerations that may challenge a student-athlete's mental well-being.
5. Offer considerations in developing a routine and emergent referral system to send student-athletes for psychological concerns assistance.
6. To review data on suicide in young adults and preventative measures.
7. To develop an on-going relationship with university entities that will assist in the referral, care, and disposition of psychological issues in student-athletes.
8. Considerations in mental health emergencies and catastrophic incidents.
9. Considerations in the areas of risk management and legal liability for institutions when developing a student-athlete psychological concerns and referral plan.
10. To provide considerations for the athletic trainer to utilize in collaboration with athletic department and university administrations in developing a plan to effectively recognize, refer, and care for psychological concerns in intercollegiate student-athletes.

The athletic trainer is to take the information provided in the Consensus Statement and develop a plan specific to their institution that addresses the psychological concerns of their student-athletes (Neal et al., 2013). Neal et al. (2013) recommended addressing the following areas within the institution-specific plan: educational information on mental health conditions in young adults; a list of symptoms, behaviors, and triggers that may indicate psychological concern; a detailed process for making referrals to mental health professionals; and a Mental Health Emergency Action and Management Plan. After the athletic trainer develops an initial draft of

the plan, it should be shared with the team physician, athletic department administrators, university administrators, university risk management and general counsel, and campus counseling services for approval (Neal et al., 2013). Upon approval, the plan must then be distributed to the athletic training staff, members of the athletic department, and other institutional entities involved in the referral process (Neal et al., 2013). The plan should be reviewed annually by all involved parties and updated on a regular basis (Neal et al., 2013).

Highlighted in the NATA Consensus Statement are detailed recommendations for athletic trainers for the management of emergent mental health referrals. When faced with a situation that warrants emergent referral, the following steps should be followed (Neal et al., 2015, p. 40):

1. Obtain and have available in your plan the institutional protocol for emergent mental health evaluations for students. Follow the protocol. Contact the university Public Safety Department or the Office of Student Affairs to obtain a copy.
2. If the student-athlete appears or acts violently, call for campus and/or local law enforcement and seek immediate assistance and steps to protect bystanders from harm.
3. If the student-athlete is not violent, do not leave them alone. Call for assistance per the institutional protocol. Wait for instructions on how and where the student-athlete will be taken for an assessment. Offer to accompany the student-athlete to the place of evaluation- this may help reassure the student-athlete during the assistance process.
4. Contact your supervisor in sports medicine, athletics administration, Office of Student Affairs, team physician, and the student-athlete’s coach to alert them to an emergent incident.
5. Get all phone numbers of those caring for the student-athlete for follow-up.

6. Seek advice or assistance with athletic administration, Office of Student Affairs or general counsel on contacting the student-athlete's family and informing them of this incident.

Each institution is to take these recommendations and implement them into their institutional policies, so that the best care can be provided to student-athletes in their jurisdiction.

NATA Position Statement: Disordered Eating

Much like the two documents discussed above, the NATA developed a Position Statement to provide athletic trainers and other healthcare providers with recommendations for prevention, detection, and management of student-athletes with disordered eating (Bonci et al., 2008). As with preparing for mental health concerns in student-athletes, Bonci et al. (2008) recommended that a point person within the health care team be identified, and a referral network be established for each institution. The health care team should determine how screening will be conducted, develop policies that clearly define coaches' responsibility regarding issues of body weight, and design mandatory educational programs for student-athletes, coaches, athletic trainers, and other key personnel (Bonci et al., 2008).

Bonci et al. (2008) highlighted the importance of early detection of disordered eating, and identified signs and symptoms, predisposing risk factors, and screening methods that athletic trainers must be aware of. While it is not within the scope of practice for an athletic trainer to diagnose disordered eating, it is of utmost importance that they are able to identify those that are at-risk or may be struggling (Bonci et al., 2008). If disordered eating habits are suspected, initial contact with the student-athlete should be made by the athletic trainer or designated point person to express concern for the individual based on observations (Bonci et al., 2008). If suspicions are confirmed, the student-athlete should be referred to the supervising physician for an initial

evaluation (Bonci et al., 2008). Depending on the findings of the evaluation, the athletic trainer, physician, and other members of the health care team should determine the best treatment services for the individual (Bonci et al., 2008). Much like making a referral for an individual with mental health concerns, the athletic trainer should follow up with the student-athlete regarding treatment and sport-participation status (Bonci et al., 2008).

In addition to this NATA Position Statement regarding disordered eating in college student-athletes, the NATA also developed a separate Position Statement that provides recommendations for safe weight loss and weight maintenance practices for athletes and active clients that are trying to achieve and maintain weight and body composition goals (Sammarone Turocy et al., 2011). This Position Statement targets the knowledge of proper nutrition, weight-management practices, and methods to change body composition, as well as recommended practices for assessing weight and body composition (Sammarone Turocy et al., 2011). While this document is not specific to eating disorders, these recommendations are important to an athletic trainer because sports with these goals are often associated with eating disorders (Bonci et al., 2008; Sammarone Turocy et al., 2011).

NCAA Drug-Testing Program

The NCAA has instituted drug-testing policies for its member institutions to prevent the illegal use of drugs by participating collegiate student-athletes. Drug-testing is intended to identify collegiate student-athletes that are using NCAA banned substances, which can be seen in Table 5 (NCAA, 2022a). The NCAA has provided member institutions with drug education guidelines to disseminate information to their student-athletes. Athletic directors or other designated personnel are required to provide a list of the banned substances annually (NCAA, 2022a). Throughout the year, collegiate student-athletes must be informed of institutional

policies related to drug testing, discipline, counseling and treatment, and usage disclosure (NCAA, 2022a). Student-athletes should be educated about the risks of testing positive for the use of nutritional/dietary supplements and the importance of consulting with the athletic department staff prior to engaging in their use (NCAA, 2022a). At the start of the academic year, athletic departments must verbally explain drug testing policies and provide student-athletes with a written copy (NCAA, 2022a). Once they are provided with this information, student-athletes are required to sign and consent to drug testing (NCAA, 2022a). The NCAA drug testing procedures are outlined in the NCAA Drug Testing Program document that is publicly available.

Table 5

NCAA Drug Testing Program Banned Substances Classes

NCAA Banned Substances Classes	
• Stimulants • Anabolic agents • Alcohol and beta blockers • Diuretics/masking agents • Peptide Hormones, growth factors, related substances	• Cannabinoids • Beta-2 agonists • Hormone and metabolic modulators • Narcotics

Notes. This table was adapted from the 2022-2023 NCAA Drug-Testing Program (NCAA, 2022a).

The Application of Recommendations. Since these documents were published and easily accessible, many colleges and universities have implemented these recommendations into their institutional policies and procedures. A cross-sectional study of 235 athletic trainers at NCAA institutions was conducted in 2019 to investigate preparedness, confidence, and best practices in recognizing and managing mental health concerns (Young et al., 2020). Of the 235 institutions represented, 78 were Division I, 52 Division II, and 105 Division III (Young et al. 2020). Nearly 65% of the participating institutions stated that they have a routine (133/202) or

emergency (154/235) mental health policy in place (Young et al., 2020). When comparing between NCAA Divisions, a significant difference was identified for emergency ($p < 0.001$) and routine ($p = 0.002$) mental health policies, indicating that Division I institutions had proportionally more policies in place compared to Division III (Young et al., 2020). Of the 192 institutions that indicated when the last policy review occurred, 74.48% reported within the last year (Young et al. 2020).

The second component of this study reviewed 36 institutions' mental health policies and procedures to evaluate if the NCAA best practice recommendations were included (Young et al., 2020). All policies stated that mental health evaluations and treatments were provided by a licensed mental health professional (Young et al., 2020). Of the 36 policies, 26 appropriately identified characteristics of mental health emergencies, 28 indicated when to contact emergency medical services, 29 identified communication of management expectations during a crisis, and 30 specified providers for routine mental health concerns (Young et al., 2020). However, Young et al. (2020) found that 29 of the reviewed policies did not mention management of acute intoxication/drug overdose (Young et al., 2020). While this study was a small sample of NCAA institutions, the findings suggest that continued efforts need to be made in policy development and education of athletic trainers related to preventing, recognizing, and managing mental and behavioral health concerns in collegiate athletics (Young et al., 2020).

Role of Athletic Trainers With Mental and Behavioral Health

The NCAA and NATA acknowledge that athletic trainers are in the optimal position to identify and initiate care and serve as the point person for collegiate student-athletes struggling with mental and behavioral health concerns (NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013). Unlike other medical professionals, athletic trainers interact with their patients daily

during the competitive season and are privy to information that others may never be given access to (Granquist & Kenow, 2015; Neal et al., 2013). In some cases, the student-athlete, a teammate, or coach may notify the athletic trainer of mental and/or behavioral health concerns. While it is not within the scope of practice of an athletic trainer to diagnose and treat these health concerns, they are well positioned to initiate referrals and serve as the point of contact for managing care (NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013).

The Board of Certification (BOC), the credentialing body for athletic training, frequently conducts practice analyses to define performance domains, tasks, knowledge, and skills required of newly certified athletic trainers (BOC, 2021). The eighth edition of the practice analysis identified five performance domains: I) risk reduction, wellness, and health literacy, II) assessment, evaluation, and diagnosis, III) critical incident management, IV) therapeutic intervention, and V) health care administration and professional responsibility (BOC, 2021). Mental health and psychosocial factors/strategies are mentioned in Domains I, II, and IV.

Within Domain I, tasks 1 and 4 explicitly address mental health. Task 1 states that athletic trainers must utilize appropriate screening questionnaires, surveys, and instruments, as well as surveillance data, to identify risk factors for individuals and groups prior to participating in activities (BOC, 2021). If the screening tools or surveillance data identify risk, the athletic trainer must determine the need for referral and initiate the process. Task 4 states that athletic trainers must optimize wellness, which includes social, emotional, spiritual, environmental, occupational, intellectual, and physical well-being (BOC, 2021). This task states that a patient's mental and psychological health is a critical component of wellness, and the athletic trainer must be able to identify signs of mental health concerns and refer patients to the appropriate mental health professional (BOC, 2021).

Domains II and IV address the athletic trainers' knowledge and skills related to psychosocial factors and strategies influencing injury and rehabilitation. The athletic trainer's ability to gather pertinent information from the patient, formulate a clinical diagnosis, develop a plan of care, and educate the patient are associated with Domain II. While mental and behavioral health are not explicitly stated, the term "psychosocial factors" is mentioned throughout this domain. As the athletic trainer obtains a patient history, knowledge of psychosocial factors that impact clinical trajectories of health conditions is needed (BOC, 2021). As the athletic trainer formulates a clinical diagnosis and establishes a plan of care, they must have knowledge of how psychosocial factors impact the health condition, and how the health condition impacts psychosocial factors (BOC, 2021). Finally, as athletic trainers educate patients about their condition, plan of care, and prognosis, they must have knowledge of psychosocial characteristics that may influence communication with and understanding by the patient (BOC, 2021).

Domain IV addresses the psychological aspects of injury, therapeutic intervention, and return to participation. In all tasks within this domain, knowledge of psychosocial aspects, implications, or influences are mentioned (BOC, 2021). The athletic trainer must be knowledgeable of the psychosocial influences related to selecting therapeutic exercises and implementing therapeutic modalities (BOC, 2021). As athletic trainers implement the plan of care, they must continuously evaluate the patient's response to treatments with the goal of returning the patient to full function, which includes optimal psychological wellness (BOC, 2021). Finally, as the patient is preparing to return to full functional activity, the athletic trainer must have knowledge of the psychosocial factors that influence full return to activity (BOC, 2021).

The BOC Practice Analysis provides significant evidence that athletic trainers must be knowledgeable about and have skills in the identification and management of mental health and psychosocial implications of injury and therapeutic interventions. While mental health is explicitly addressed in Domain I, other aspects of mental and behavioral health were addressed several times in Domains II and IV.

Athletic Trainers' Confidence

In the available literature addressing athletic trainers' confidence, preparedness, and readiness to provide psychosocial interventions for patients, athletic trainers repeatedly stated that they desire more education and practice in this area (Clement et al., 2013; Cormier & Zizzi, 2015; LaRue, 2013; Stiller-Ostrowski & Ostrowski, 2009; Ostrowski et al., 2023). In two studies examining athletic trainers' experiences with psychosocial strategies related to injury and rehabilitation, both found that athletic trainers use psychosocial strategies in their care for injured athletes; however, athletic trainers desire more education and training in these areas (Clement et al., 2013; Stiller-Ostrowski & Ostrowski, 2009). Clement et al. (2013) found that athletic trainers use strategies like goal-setting and varying rehabilitation exercises to help athletes cope with injury, but they desire more education about motivation, effective communication, and goal-setting. Moreover, Stiller-Ostrowski and Ostrowski (2009) found that athletic trainers felt underprepared in motivation techniques, rehabilitation adherence techniques, counseling and social support, and making referrals.

In a cross-sectional study of athletic trainers' skills in the identification and management of psychological distress, Cormier and Zizzi (2015) found that athletic trainers were able to identify psychological distress very well compared to mental health experts. When making referrals, athletic trainers made the correct referral decision for athletes with low-level and high-

level psychological signs and symptoms, but not for moderate-level signs and symptoms (Cormier & Zizzi, 2015). Additionally, athletic trainers had difficulty selecting the appropriate psychosocial strategy for athletes with high-level signs and symptoms (Cormier & Zizzi, 2015). A significant predictor of athletic trainers' accuracy in recognizing signs and symptoms was having a background in sport psychology, and a significant predictor of accurately recognizing best course of action was years of experience, with less years of experience yielding higher accuracy (Cormier & Zizzi, 2015).

Athletic trainers provide medical care for several athletes during the year. One study exploring the athlete to athletic trainer ratio at 4-year universities in South Carolina found that a single athletic trainer cares for an average of 87 athletes (Bradley et al., 2015). Because of the prevalence of mental health conditions among collegiate student-athletes and the number of student-athletes each athletic trainer cares for, it is expected that nearly all athletic trainers working with this population will provide care for at least one student-athlete with a mental health condition (Young et al., 2020). Athletic trainers have identified anxiety, depression, and eating disorders as the most recognized and referred conditions in their clinical practice (Ostrowski et al., 2023). In 2019 cross-sectional study of 235 NCAA institutions, athletic trainers on average made 19 routine and two emergency referrals within the year (Young et al., 2020). However, less than 50% of athletic trainers indicated that they felt "fairly confident" with screening for risk, providing preventative education, recognizing and referring routine mental health concerns, and recognizing and referring emergency mental health concerns (Young et al., 2020). While this appears concerning, research indicates that increased education and content exposure increases confidence in managing these situations (Ostrowski et al., 2023).

Athletic Training Education

In 2015, the Commission on Accreditation of Athletic Training Education (CAATE) and other strategic partners determined that athletic training education must be elevated from an entry-level bachelor's degree to a master's degree (CAATE, n.d.; Diakogeorgiou et al., 2021). The fall of 2022 was the final academic year that students could enter an undergraduate athletic training program (Diakogeorgiou et al., 2021). As a result of this mandate, the CAATE developed new educational standards to be used to direct professional education at the graduate level (CAATE, n.d.; Diakogeorgiou et al., 2021). The standards detail what is required to achieve and maintain program accreditation, with one section outlining the minimum curricular content that is to be taught within an accredited program (Diakogeorgiou et al., 2021).

Curricular content detailed in the 2020 Standards is centered around the following areas: core competencies; development of care plans; examination, diagnosis, and intervention; prevention, health promotion, and wellness; and health care administration (CAATE, 2022; Diakogeorgiou et al., 2021). These content areas are further delineated to identify specific knowledge and skills that athletic training students must learn while enrolled in an entry-level program. This is not an exhaustive list; the standards provide content areas that are minimally required to allow accredited programs to have freedom to incorporate additional items that they deem necessary. The standards also provide accredited programs with the freedom to meet the standards however they see fit, allowing programs to determine how to deliver the content, where to house the content, and how to assess the content (CAATE, 2022).

Within the examination, diagnosis, and intervention content area of the 2020 Standards, the CAATE identifies mental and behavioral health as a content area that must be addressed

within accredited programs. Standard 77 states that accredited athletic training programs must prepare students to:

> Identify, refer, and give support to patients with behavioral health conditions. Work with other health care professionals to monitor these patients' treatment, compliance, progress, and readiness to participate. These behavioral health conditions include (but are not limited to) the following: suicidal ideation, depression, anxiety disorder, psychosis, mania, eating disorders, and attention deficit disorders. (CAATE, 2022, p. 47)

Additionally, in the health care administration content area, Standard 94 requires accredited athletic training programs to educate and prepare students to "develop and implement specific policies and procedures for the purposes of identifying patients with behavioral health problems and referring patients in crisis to qualified providers" (CAATE, 2022, p. 53).

As mentioned previously, practicing athletic trainers have indicated a desire for more education and practice with content related to mental and behavioral health and psychosocial aspects of injury and rehabilitation (Clement et al., 2013; Cormier & Zizzi, 2015; LaRue, 2013; Stiller-Ostrowski & Ostrowski, 2009; Ostrowski et al., 2023). In the 2020 Standards, the CAATE identified psychology as a prerequisite course students must take prior to entering an athletic training program (CAATE, 2022). While sport psychology is not a required area, some athletic training programs have elected to add it as a prerequisite course or content area within the program curriculum. Of the NCAA Division I athletic trainers that participated in a study, 68.6% indicated that they completed coursework in sport psychology (Zakrajsek et al., 2016). In another study, coursework in sport psychology was a significant predictor of athletic trainers' ability to accurately identify signs and symptoms of mental health concerns (Cormier & Zizzi, 2015).

In addition to coursework in psychology and sport psychology, accredited athletic training programs are utilizing active-learning techniques like role-playing and standardized patient encounters to satisfy Standard 77 (Ostrowski et al., 2021; Plos et al., 2021; Walker et al., 2016; Winkelmann et al., 2022). Because athletic training students are not usually involved in the mental and behavioral health care of their patients, standardized patient encounters and role-playing activities provides students with opportunities to develop skills in a safe, yet realistic learning environment (Walker et al., 2016). Three published articles from three different athletic training programs utilized standardized patient encounters to provide their students with the opportunity to identify, intervene, and refer someone struggling with mental or behavioral health concerns (Ostrowski et al., 2021; Walker et al., 2016; Winkelmann et al., 2022). The encounters included suicidal ideation, non-suicidal self-injury, eating disorder, and substance abuse. Walker et al. (2016) found that standardized patient encounters done in small groups yielded significant improvement in intervention and referral skills compared to encounters performed individually. Winkelmann et al. (2022) studied the long-term effects of standardized patient encounters with follow-up interviews 1.5 to 3 years after the encounter occurred. The interviews revealed that the students learned from the errors they made during the encounter, they had increased confidence in managing similar scenarios, their communication skills had improved, and they had conversations with current employers about institutional policies and procedures because of it (Winkelmann et al., 2022).

Plos et al. (2021) implemented a suicide prevention training module at an institution to educate and prepare athletic training students for these unfortunate situations. This module included a didactic portion that defined terms, provided statistics, and identified risk factors and warning signs (Plos et al., 2021). For a learning activity, students were provided a yearbook full

of pictures and were asked to identify the individuals they believed died from suicide; however, they didn't know that each person in the yearbook died from suicide (Plos et al., 2021). The next portion of the module was a guided role-play in which a mental health professional acted as a student-athlete who was contemplating suicide (Plos et al., 2021). The third portion of this module required students to read the NATA Consensus Statement and the NCAA Best Practice Statement to develop a mental health emergency action plan (Plos et al., 2021). Finally, the students evaluated the emergency action plan with a hypothetical scenario with the mental health professional again acting as the victim (Plos et al., 2021).

Gaps in the Literature

Statistics show that mental and behavioral health conditions are a concern for young adults 18-25 years old, having the highest prevalence and the lowest amount of treatment sought (NIMH, 2022). Within this population are collegiate student-athletes, who are also facing similar realities. However, the NCAA and NATA have taken steps through the development of policies and best practice recommendations to care for and manage these conditions within NCAA athletics. Athletic trainers that work with collegiate student-athletes are unlike any other healthcare professional because they interact with their patients so frequently—even daily during the competitive season (Granquist & Kenow, 2015). This unique position allows athletic trainers to play an integral role in providing care for student-athletes struggling with mental and behavioral health conditions. While it is not within the scope of practice for an athletic trainer to diagnose and treat these conditions, the NATA and NCAA recommend that the athletic trainer serve as the point person for the identification, management, and referral (NCAA Multidisciplinary Task Force, 2020; Neal et al., 2013).

Although mental and behavioral health is not the primary responsibility of the athletic trainer, the CAATE Standards identify this as a content area that must be taught in athletic training education (CAATE, 2022). The CAATE Standards were written in such a way as to provide individual programs freedom to teach content beyond what is minimally required, and determine how the content will be delivered, where it is housed within the curriculum, and how it is being assessed. The current available literature around teaching and assessing students in mental and behavioral health content is sparce. A few institutions use active-learning strategies like standardized patient encounters and role playing to teach students to identify, manage, and refer (Ostrowski et al., 2021; Plos et al., 2021; Walker et al., 2016). Some institutions include suicide prevention and mental health first aid training in their curriculum (Ostrowski et al., 2021; Plos et al., 2021). Others have students write mental health emergency action plans using the NATA Consensus Statement as a guide (Feld et al., 2018; Plos et al., 2021).

However, the current available literature that addresses athletic trainers' confidence and preparedness to identify, manage, and refer mental and behavioral health conditions reveals that clinicians desire more education in this area and expressed feelings of being underprepared (Clement et al., 2013; Cormier & Zizzi, 2015; LaRue, 2013; Ostrowski et al., 2023; Stiller-Ostrowski & Ostrowski, 2009; Zakrajsek et al., 2016). Ostrowski et al. (2023) found in a survey of athletic trainers that many of the respondents felt dissatisfied with or slightly satisfied with the education they received related to recognizing and referring student-athletes with mental health concerns.

Because of the limited research specific to educational practices related to this content and the recurring theme of desiring more training and preparation, this study sought to identify

current educational practices used in CAATE-accredited athletic training programs to address mental and behavioral health content.

Theoretical Framework

As the professional education for athletic training transitions from an undergraduate degree to an entry-level master's degree, program faculty should implement adult learning theories to guide instructional design and content delivery (Harris & Welch Bacon, 2019). Several theories are associated with adult learning; however, constructivist theory is most common (Chuang, 2021). Constructivist theory suggests "learners construct knowledge for themselves" (Hein, 1991, p. 1), and thus are active participants in the learning process. Principles of constructivism are founded on John Dewey's belief that knowledge is constructed through experiences (Bélanger, 2011). Therefore, active learning strategies provide students with the opportunity to learn from experiences and their reflection upon them, rather than passively absorbing information that is shared with them (Chuang, 2021; Hein, 1991). Research suggests that active learning facilitates engagement, retention, and deeper understanding of content (Chuang, 2021; Harris & Welch Bacon, 2019). Constructivist learning strategies include reciprocal teaching and learning, inquiry-based learning, problem-based learning, and cooperative learning (Kurt, 2021).

Several allied health professions use constructivist theory to guide their educational programs (Benjenk et al., 2019; Dennick, 2016; Legare et al., 2012; Sultan et al., 2022). Simulations and standardized patient encounters have been utilized in nursing education to allow students to practice assessing and communicating with patients (Benjenk et al., 2019). Likewise, several Doctor of Physical Therapy programs utilize a problem-based learning model that incorporates small group discussions and student-led demonstrations to replace traditional

lectures (Bains & Kaliski, 2020). In a systematic review of active learning in health professions, Harris and Welch Bacon (2019) found that active learning is a successful method for improving knowledge, understanding, and application. They also found that active learning developed higher-order skills of analyzing, evaluating, and creating, especially through problem-based learning and simulation (Harris & Welch Bacon, 2019).

Constructivist Theory in Athletic Training

To date, both lecture and active learning techniques have been utilized to deliver curricular content in athletic training education. A mix-methods study investigating common pedagogical strategies among undergraduate athletic therapist programs in Canada found that there are professors that use traditional teaching methods (lectures) and others that use non-traditional pedagogical strategies (King & MacKinnon, 2019). Rooted in constructivism, the non-traditional strategies include case-based learning, flipped-classroom, student critical reflection activities, narrative storytelling, self-directed learning, and cooperative learning (King & MacKinnon, 2019). Other active learning techniques that are used in athletic training education include the use of simulations, role-play, and standardized patient encounters (Cuchna et al., 2019; Frye & Armstrong, 2022; Ostrowski et al., 2021; Walker et al., 2016; Winklemann et al., 2022). Frye and Armstrong (2022) found that standardized patients improved students' soft-skills, confidence, critical thinking, and decision-making abilities by providing a safe, realistic learning environment.

Moreover, the literature provides examples of constructivist theory in athletic training education, especially when educating and preparing students on mental and behavioral health content (Ostrowski et al., 2021; Walker et al., 2016; Winklemann et al., 2022). Strategies such as role playing, standardized patient encounters, and exploratory counseling sessions have been

beneficial for student learning in this content area (Ostrowski et al., 2021; Walker et al., 2016; Winklemann et al., 2022). These active learning techniques afforded students the opportunity to construct knowledge, make sense of the experience, and transfer it to patient care. While the literature provides examples of what educational strategies are being employed at a few institutions to teach this content, the purpose of this study was to determine what practices are currently being utilized to prepare students in CAATE-accredited athletic training programs.

Chapter 3

Methodology

Study Design

A non-experimental quantitative survey design was used to collect data of the current educational practices used to teach mental and behavioral health content in entry-level, CAATE-accredited athletic training programs in the United States. The independent variables include type of institution (public or private) and program enrollment numbers. Dependent variables include content areas, instructional delivery methods, instructional time, location of content within the program curriculum, strategies of assessment, instructor type, student engagement strategies, and personnel and instructional resources.

Target Population

Participants of the current study were program directors of entry-level, CAATE-accredited athletic training programs in the United States. It is assumed that program directors have the most knowledge about their program and therefore, would be best able to provide the most accurate information about their program. All entry-level programs with their respective degree-level, accreditation status, and program director are listed for public access on the CAATE's website (CAATE, 2023). Because email addresses are not included on the website, the researcher emailed the Associate Director of Accreditation of the CAATE and was provided an Excel spreadsheet with a list of current program directors' email addresses. As of April 2023, 284 entry-level, CAATE-accredited athletic training programs exist in the United States, of which 252 programs are entry-level master's programs and 32 are entry-level bachelor's programs. Currently, six institutions have programs at both degree levels, four have the same

program director for both programs, and two have a different program director at each level; therefore, 280 program directors represent the 284 total programs.

Inclusion

Program directors that lead an entry-level, CAATE-accredited program that is in good standing with the CAATE, indicating that the program is fully compliant with the CAATE Standards and has received full accreditation were included in this study. Program directors of athletic training programs with the accreditation status listed as "initial accreditation" and "continuing accreditation" were included. "Initial accreditation" is awarded to a program when the CAATE grants accreditation for the first time (CAATE, 2023). "Continuing accreditation" is awarded to programs that are currently accredited (CAATE, 2023). Of the 284 programs listed, 251 will be included in this study due to being in good standing with the CAATE and having an accreditation status of either "initial accreditation" or "continuing accreditation." Most of these programs are offered within public institutions (n = 151) with the remainder (n = 100) being offered within private institutions.

Exclusion

Program directors were excluded if their program's accreditation status was listed as "seeking initial accreditation," "continuing accreditation – probation," "continuing accreditation – administrative probation," "initial accreditation withheld," "accreditation voluntarily withdrawn," "accreditation withdrawn," or "continuing accreditation – inactive." These terms are defined in detail on the CAATE website (CAATE, 2023). Of the 284 programs listed, "seeking initial accreditation" (n = 12), "accreditation voluntary withdrawal" (n = 17), and "continuing accreditation – probation" (n = 1) were the three program statuses that resulted in programs being excluded from this study. Two additional programs will be excluded because they are

located outside of the United States, and one was not counted because their accreditation status was not listed.

Sample Size. All program directors of entry-level, CAATE-accredited athletic training programs that are in good standing and have an accreditation status of either "initial accreditation" or "continuing accreditation" in the United States were invited to participate (n = 251). Using a point biserial model with 80% power, 0.3 effect size, and $\alpha = 0.05$, according to G*power (Faul et al., 2007), 82 participants will be needed to meet the sample size statistical requirements. Data was collected from early-August 2023 until late-September 2023.

Instrumentation

The Older Adult Curriculum in Physical Therapy Education Questionnaire was adopted and modified to examine mental and behavioral health curriculum in entry-level, CAATE-accredited athletic training programs in the United States. The original instrument was developed by Granick et al. (1987) and was modified by Castleberry (2021). The Older Adult Curriculum in Physical Therapy Education Questionnaire (Castleberry, 2021) can be found in Appendix B. Permission to adopt and modify this instrument was received via email from the author as seen in Appendix C.

Modification Procedures

To modify the Older Adult Curriculum in Physical Therapy Education Questionnaire (Castleberry, 2021) to meet the needs of this research, the researcher and a committee member with extensive experience in athletic training education, evaluated each survey item to determine which questions would remain the same and which would need modification. Castleberry's (2021) questionnaire included one program demographic item, which was modified to reflect athletic training program entry-level degree options. To determine what additional demographic

items to include, the researcher brainstormed what programmatic and institutional characteristics would potentially influence mental and behavioral health education content and practices and then discussed these items with the committee member. Six demographic items were added to the questionnaire.

The content related questions were modified next. First, the researcher replaced "older adult" with "mental and behavioral health," and "physical therapy" with "athletic training" throughout the questionnaire. Next, the researcher and the committee member evaluated questions 2-12 of Castleberry's (2021) questionnaire to determine which questions would remain the same, which would need to be modified, and which, if any, would be removed. An option for "other" was added to question 2. Question 3 was modified to ask participants to provide the total number of hours of instructional time focused on mental and behavioral health content rather than the percentage of the entire curriculum. Question 4 was modified to include examples of curriculum areas that are applicable to athletic training education. Additionally, the option of "professional physical therapy practice" was removed and "other" was added. Questions 5 and 6 were not modified. For question 7, organizations that provide instruction and resources that focused on physical therapy and older adults were replaced with mental and behavioral health organizations. Additionally, "community-based learning activities" was removed and "other" was added. Question 8 was significantly modified to replace topics related to older adult populations in physical therapy education with topics related to mental and behavioral health in athletic training. To determine what topics to include, the researcher used the CAATE Standards, the BOC Practice Analysis 8th edition, and the seminal documents discussed in the literature review to identify content areas that are beyond the scope of Standard 77 and 94. Other than replacing "older adult" and "older adult contact experiences," questions 9 and 10 remained the

same. Question 11 was modified to include resources specific to mental and behavioral health in athletic training. Finally, question 12, was reworded and an additional open-response question was added.

Content Validity

Due to modifications being made to the instrument, the revised version was reviewed by three program directors of entry-level, CAATE-accredited programs in the United States to establish content validity. Two program directors from private institutions, one with 1,200 total enrollment and the other with 5,000 total enrollment, and a third program director from a public institution with 50,000 total enrollment were recruited to review the instrument for clarity and comprehensiveness. The instrument was emailed to each program director individually to ensure that the feedback was not influenced by comments from the other program directors. The researcher instructed the program directors to provide questions, revisions, or suggestions using the comment function on the Word Document. Program directors were given 10 days to review the questionnaire. After feedback was received, the researcher reviewed the comments, and additional revisions were made based on consensus.

The final version of the instrument is 17 questions. The first six questions ask about program demographic information and the remainder of the questions ask about content specific information. Questions 7 through 15 are fixed-response and questions 16 and 17 are open-ended. The final version of the instrument may be found in Appendix D.

Data Collection

The researcher emailed program directors representing 248 of the 251 programs in the United States that are in good standing with the CAATE, inviting them to participate in the current study. The three program directors that reviewed the survey for validity were excluded.

The email invitation included an explanation of the study, the expected time commitment, and a link to the online instrument using Qualtrics. Informed consent was obtained on the first page of the Qualtrics survey. Upon consenting, the participants proceeded to the survey. The recruitment email was sent in early August and the survey remained open for 7 weeks. Four reminder emails were sent within the data collection period. An incentive was utilized to encourage participation. After completing the survey, participants could enter a drawing to win one of eight pre-paid registrations to a virtual Mental Health First Aid training course, which was funded by Cedarville University. To enter the drawing, participants clicked on a link on the final page of the survey that directed them to a Google Form where they entered their name and email address.

Data Analysis

The instrument variables were coded as seen in Appendix E and the data was exported to SPSS for data analysis. Descriptive statistics were run to determine the frequently used practices for all institutions regardless of the type of institution or program enrollment numbers. To determine if there is a difference between public and private institutions, t-tests were run to test hypotheses Q1aH, Q2aH, Q3aH, Q4aH, Q5aH, Q6aH, Q7aH, and Q8aH. To determine if there is a relationship between the number of students and the educational practices, Pearson's correlation was run to test the hypotheses Q1bH, Q2bH, Q3bH, Q4bH, Q5bH, Q6bH, Q7bH, and Q8bH. The data analysis table may be found in Appendix F.

Institutional Review Board

This study was approved by Radford University Institutional Review Board. No identifying information was associated with the survey responses. All data was stored securely in Qualtrics and SPSS using a password protected device and only the researcher had access to the raw data. Because no personal identifiable information was collected from the participants

through the survey, there was no associated risk to the study participants. Participant names and email addresses that were collected through the Google Form for the incentive were housed on a password protected computer.

Limitations

One limitation of the study is the use of a quantitative only design. However, this type of design was selected to perform a large-scale scan of the current educational practices used to teach mental and behavioral health content in entry-level, CAATE-accredited athletic training programs across the United States. A follow-up study using a qualitative design could be conducted to further explore the current practices at a variety of institutions.

A second limitation is using a survey that collects self-reported data. Two possible biases include selective memory and/or exaggeration, both of which could have altered the results.

Finally, a low response rate is a limitation to this study. A mass, blind carbon copied email was sent to 248 program directors during the early part of August as 10-month contracted faculty members were likely returning to their respective campuses. The low response rate may have been due to the timing of the emails, fear of clicking on the survey link due to an increase in phishing emails, and the potential that an email from outside the organization went directly to participants' spam folder.

Delimitations

A delimitation to this study is that only entry-level, CAATE-accredited programs in the United States that are in good standing were included in this study. This decision was made to ensure that only the programs that are meeting the accreditation standards would be sampled to provide the most accurate data. Post-graduate studies and residency programs were excluded because all education provided in those programs is beyond entry-level requirements.

Assumptions

Because the 2020 CAATE Standards include mental and behavioral health as a required content area, it is assumed that all entry-level, CAATE-accredited programs that are in good standing are addressing this content to meet these standards.

Since program directors oversee their individual programs, it is assumed that they are aware of how the CAATE Standards are being met within their programs. However, program directors may not be aware of the specific content being taught, the instructional delivery methods being used, or the assessment strategies being utilized by faculty employed within their program.

Chapter 4

Results

Sample

The electronic questionnaire was developed in Qualtrics and the link was sent via email to 248 program directors of entry-level, CAATE-accredited athletic training programs across the United States. Eighty-eight total responses were collected; however, 18 responses were excluded because more than half of the questionnaire was incomplete. Therefore, 70 responses were used for data analysis, resulting in a 28.2% response rate.

Recruitment Strategies

The initial recruitment email, which included information about the purpose of this study and potential risks, the link to the Qualtrics questionnaire, and an explanation about the incentive, was sent in early August when most faculty members returned to campus following the summer break. Initially, it was decided that the questionnaire would be open for 1 month, and two reminder emails would be sent: the first 10 days after the initial email and the second 20 days after the initial email. The recruitment and the two reminder emails were sent as mass emails with each program director blind-carbon-copied. Due to having too few responses, the questionnaire remained open for 3 additional weeks. During that time, two additional reminder emails were sent out; however, these emails were personalized and sent to each program director individually. The questionnaire closed on September 30, 2023.

As an incentive, participants could enter a drawing to win one of eight pre-paid registration fees for a virtual Mental Health First Aid training course. On the final page of the questionnaire, participants were able to click a link that directed them to a Google Form where they were able to enter their name and email address. Fourteen individuals entered the drawing.

Using a free online list randomizer by GIGA Calculator, the list of names was copied directly from the Google Forms results and pasted into the textbox to be shuffled. After clicking the button to randomize the list, a new list appeared with the names in a different order. The first eight participants on the shuffled list were selected as winners. The winning participants were then emailed to notify them that they were selected.

Demographics

The study sample was comprised of program directors from entry-level, CAATE-accredited athletic training programs in good standing with the CAATE across the United States. Program director names and institutions they represented were not identified through the questionnaire. The vast majority of respondents (67/70) represented graduate programs. The remaining three programs were undergraduate programs. Of the 70 programs, 47 are housed in public institutions and 23 in private institutions. The average institutional enrollment was 19,127.2 students, while the average athletic training program enrollment was 21.7 students with public institutions having an average program size of 21.5 students and private institutions having 22.2 students. NCAA Divisions I (43/70), II (9/70), and III (15/70) represented 96% of institutions' athletic level. Tables 6, 7, and 8 provide the demographic information for the represented programs.

Table 6

Athletic Training Program Demographics

Category	N
Master's Degree Programs	67
Bachelor's Degree Programs	3
Average Program Enrollment	21.7
Average Institutional Enrollment	19,127.21
Public Institutions	47
Private Institutions	23
Average Program Budget	$75,272.23
NCAA Division I Athletic Programs	43
NCAA Division II Athletic Programs	9
NCAA Division III Athletic Programs	15
NAIA Division I Athletic Programs	3
NAIA Division II Athletic Programs	0

Table 7

Demographics of Athletic Training Programs From Public Institutions

Category	N
Master's Degree Programs	46
Bachelor's Degree Programs	1
Average Program Enrollment	21.47
Average Institutional Enrollment	23,958.89
Average Program Budget	$76,080.65
NCAA Division I Athletic Programs	35
NCAA Division II Athletic Programs	6
NCAA Division III Athletic Programs	6
NAIA Division I Athletic Programs	0
NAIA Division II Athletic Programs	0

Table 8

Demographics of Athletic Training Programs From Private Institutions

Category	N
Master's Degree Programs	21
Bachelor's Degree Programs	2
Average Program Enrollment	22.22
Average Institutional Enrollment	9,673.91
Average Program Budget	$175,294.1
NCAA Division I Athletic Programs	8
NCAA Division II Athletic Programs	3
NCAA Division III Athletic Programs	9
NAIA Division I Athletic Programs	3
NAIA Division II Athletic Programs	0

Results of the Study

Data from the 70 completed surveys was used for statistical analysis. Frequencies were calculated using Excel. Pearson's correlation and t-test analysis were calculated using IBM SPSS Statistical Software, version 28.0.1.0. For the statistical analysis, a probability value (p) of less than 0.05 indicated that a significant difference or relationship did exist. If the p-value was greater than 0.05, then there was no significant difference or relationship.

Descriptive Analysis

Research Question 1: What content areas, beyond what is minimally required, related to mental and behavioral health are being taught in entry-level, CAATE-accredited athletic training programs in the United States?

The participants were able to select all that apply in response to question 12 of the questionnaire. The most frequently reported content area was "depression" (97.1%) and the least frequently reported was "subclinical changes in mood and behavior" (54.3%). Over 90% of participants reported "confidentiality" (95.7%), "suicide prevention" (95.7%), "anxiety disorders" (94.3%), "suicidal ideation" (94.3%), "legal considerations" (92.9%), "eating

disorders and disordered eating" (92.9%), "self-care, stress management, coping-strategies, and personal health promoting practices" (92.9%), "patient education related to mental and behavioral health" (91.4%), "identification of mental and behavioral health conditions" (90.0%), "emergency management of drug overdose" (90.0%), "substance misuse and abuse" (90.0%), "emergency mental health referral" (90.0%), and "developing plan of care related to mental and behavioral health" (90.0%) as content areas taught. Table 9 provides the frequency of each content area listed in question 12.

Table 9

Frequency of Content Areas

Content Area	Frequency (n)	Percentage
Epidemiology of mental and behavioral health disorders	47	67.1%
Patient education related to mental and behavioral health	64	91.4%
Self-care, stress management, coping-strategies, and personal health promoting practices	65	92.9%
Developing plan of care related to mental and behavioral health	63	90.0%
Routine mental health referral	61	87.1%
Emergency mental health referral	63	90.0%
Types of mental and behavioral health professionals	58	82.9%
Substance misuse and abuse	63	90.0%
Emergency management of drug overdose	63	90.0%
Administering Naloxone	59	84.3%
Obtaining a medical history appropriate for mental and behavioral health	60	85.7%
Selection, administration, and interpretation of questionnaires and screening tools to assess mental and behavioral health status	47	67.1%
Mental health and psychological needs associated with concussions or other brain injuries	58	82.9%

Identification of mental and behavioral health conditions	63	90.0%
Monitoring patient's treatment, compliance, and progress when caring for a patient with mental or behavioral health conditions	46	65.7%
Suicidal ideation	66	94.3%
Suicide prevention	67	95.7%
Depression	68	97.1%
Anxiety disorders	66	94.3%
Mania	53	75.7%
Eating disorders and disordered eating	65	92.9%
Attention deficit disorder	56	80.0%
Non-suicidal self-injury	51	72.9%
Psychosis	46	65.7%
Development and implementation of policies and procedures related to identifying and referring patients in crisis or mental health emergency action and management plan	57	81.4%
Identifying subclinical changes in mood and behavior	38	54.3%
Approaching the student-athlete with a potential psychological concern	57	81.4%
Confidentiality	67	95.7%
Legal considerations	65	92.9%
Common stressors and triggering events	56	80.0%
Team approach to psychological evaluation and care	57	81.4%
Empathetic listening	57	81.4%

Research Question 2: What are the most frequently used instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply to question 10 of the questionnaire. All but one participant reported that mental and behavioral health content is taught in the didactic portion of the curriculum. "Clinical" (55.7%), "laboratory" (34.3%), and "other" (17.1%) were

reported less frequently. “Research” was reported the fewest times as an instructional category used to teach this content. Table 10 indicates the frequency of each instructional category listed in question 10.

Table 10

Frequency of Instructional Category Used

Instructional Category	Frequency (n)	Percentage
Didactic	69	98.6%
Laboratory	24	34.3%
Clinical	39	55.7%
Research	4	5.7%
Other	12	17.1%

Research Question 3: How much instructional time is devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants manually typed in the response for question 8 of the questionnaire. The estimated number of hours devoted to teaching mental and behavioral health content ranged from 2 to 90 hours. On average, athletic training programs spend 33.8 hours of instructional time covering this content. Public institutions spend an average of 32 hours of instructional time and private institutions spend an average of 28.8 hours. Participants from 18 institutions (25.7%) reported that they spend between 41-50 hours, 16 (22.9%) reported that they spend 11-20 hours, and 14 (20.0%) reported that they spend 1-10 hours teaching mental and behavioral health content. Table 11 provides a summary of the estimated instructional time used to teach mental and behavioral health content.

Table 11

Amount of Instructional Time

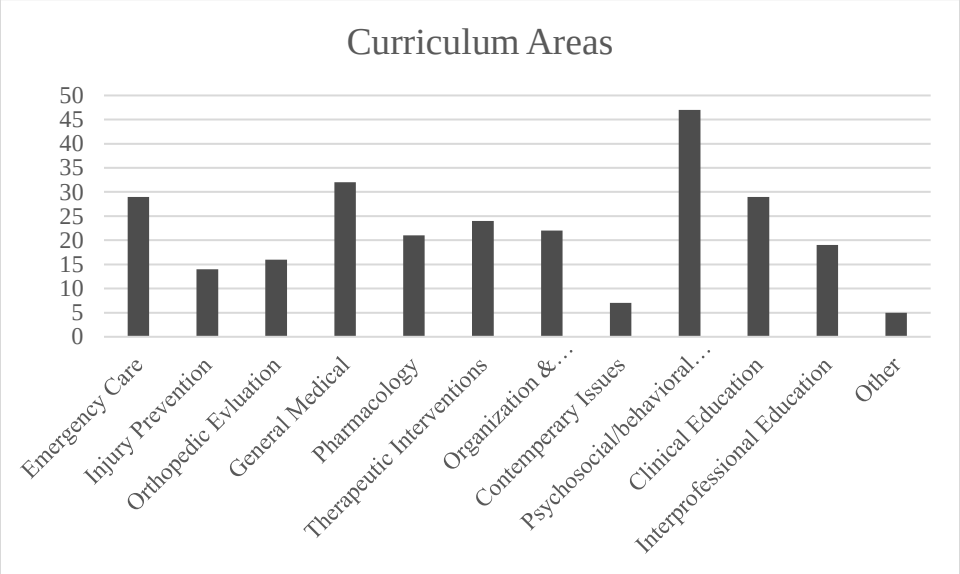
Number of hours	Frequency (n)	Percentage
1-10 hours	14	20.0%
11-20 hours	16	22.9%
21-30 hours	5	7.1%
31-40 hours	4	5.7%
41-50 hours	18	25.7%
51-60 hours	5	7.1%
61 or more hours	5	7.1%
No response	3	4.3%

Research Question 4: Where in the curriculum is the mental and behavioral health content being addressed within entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply in response to question 9 of the questionnaire. Psychosocial and/or behavioral health coursework was reported by 67.1% of participants as an area within the curriculum that mental and behavioral health content is addressed. General medical (45.7%) and emergency and immediate care (41.4%) coursework were also common areas within the curriculum where this content is taught. Contemporary issues in athletic training coursework (10.0%) was the least frequently reported response to this question. Figure 1 provides a summary of the areas within the curriculum where mental and behavioral health content is frequently taught.

Figure 1

Frequency of Curriculum Areas



Research Question 5: What strategies are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply for question 14 of the questionnaire. Multiple choice testing was the most frequently reported assessment strategy (90.0%). Problem/case-based assessment (74.3%) and skill competency and practicals (68.6%) were also frequently reported assessment strategies. The use of a portfolio as an assessment strategy was reported by one participant. Table 12 indicates how students are most frequently assessed on mental and behavioral health content.

Table 12

Frequency of Assessment Strategies

Assessment Strategy	Frequency (n)	Percentage
Multiple choice testing	63	90.0%
Problem/case-based assessments	52	74.3%
Skill competency and practicals	48	68.6%
Individual projects	29	41.4%
Group projects	20	28.6%
Portfolio or e-portfolio	1	1.4%
Research or literature review paper	13	18.6%
Presentation	13	18.6%
Poster presentation	2	2.9%
Interprofessional collaborative activity	20	28.6%
Other	8	11.4%

Research Question 6: Who is teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply to question 7 of the questionnaire. Full-time faculty members (90.0%) were the most frequently reported type of instructor that is teaching mental and behavioral health content. Guest lecturers (24.3%) were reported as a type of instructor used to teach this content. Adjunct instructors (10.0%), part-time faculty members (5.7%), and contracted content experts (2.9%) were reported less frequently to teach this content. Table 13 indicates the frequency of instructor type.

Table 13

Frequency of Instructor Type

Instructor Type	Frequency (n)	Percentage
Full-time	63	90.0%
Part-time	4	5.7%
Adjunct	7	10.0%
Guest lecturer	17	24.3%
Contracted content expert	2	2.9%
Other	1	1.4%

Research Question 7: What student engagement strategies are being utilized to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply to question 13 of the questionnaire. Lecture (95.7%) was the most reported student engagement strategy utilized to teach mental and behavioral health content. Discussion-based (74.3%), problem or case-based (72.9%), and role-playing (71.4%) were also frequently reported engagement strategies. Utilizing videos, such as YouTube, TED Talks, and educational videos (1.4%), was the least frequently reported strategy. Table 14 indicates the frequencies of student engagement strategies.

Table 14

Frequency of Student Engagement Strategies

Engagement Strategy	Frequency (n)	Percentage
Lecture	67	95.7%
Problem or case-based	51	72.9%
Discussion-based	52	74.3%
Psychomotor skills activities and experiences	34	48.6%
Instructor modeling clinical skills and performance	28	40.0%
Instructor directed feedback on clinical skills and performance	34	48.6%
Interaction with a patient, providing feedback on skills and Performance	15	21.4%
Real-time learner performance assessment and feedback	10	14.3%
Student-led activities	17	24.3%
Interprofessional activity	23	32.9%
Video analysis	34	48.6%
Role playing	50	71.4%
Simulated patient experiences	4	5.7%

Community-based project or activity	11	15.7%
Interactive electronic tools	31	44.3%
Videos	1	1.4%
Other	0	0%

Research Question 8: What resources are being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States?

Participants were able to select all that apply to question 15 of the questionnaire. Faculty members and instructors with continuing education credits or certifications in mental and behavioral health content was most frequently reported (47.3%) to teach mental and behavioral health content, followed by faculty and instructors with clinical experiences in mental and behavioral health (32.9%). Faculty members from the institution's counseling program (28.6%) and local mental and behavioral health clinicians (27.1%) were other personnel reported to teach mental and behavioral health content. Mental Health First Aid courses or other certification courses was reported by 50% of participants as a resource used to teach this content. The NCAA Mental Health Best Practices document (64.3%), the NATA Position Statement related to disordered eating (82.9%), and the NATA Consensus Statement regarding psychosocial concerns in collegiate athletes (78.6%) were reported as resources used. Table 15 details the frequency of each instructional resource.

Table 15

Frequency of Resources Used

Resource	Frequency (n)	Percentage
Psychology faculty member	15	21.4%
Counseling faculty member	20	28.6%
Social work faculty member	5	7.1%
Local mental and behavioral health clinician/professional	19	27.1%
Mental Health First Aid course or other certification	35	50.0%
Faculty and instructors with contemporary continuing education in mental and behavioral health	52	47.3%
Faculty and instructors with contemporary clinical experiences in mental and behavioral health	23	32.9%
NCAA Mental Health Best Practice	45	64.3%
NCAA National Study on Substance Use Habits of College Student-Athletes	31	44.3%
NATA Position Statement: Preventing, Detecting, and Managing Disordered Eating in Athletes	58	82.9%
NATA Consensus Statement: Inter-association Recommendations for Developing a Plan to Recognize and Refer Student-Athletes with Psychological Concerns at the Collegiate Level	55	78.6%
Other	4	5.7%

Inferential Statistical Analysis

Research Question 1a: Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly different based on the type of institution?

To determine if the number of content areas taught were different based on the type of institution, a new variable was created to determine the sum of content areas selected by each program director. A t-test was performed with institution type and the sum variable of content areas. The mean number of content areas taught in public schools was M = 27.62 and private schools was M = 24.96. Results showed no statistically significant difference between institution type and the number of content areas taught (p = .079).

Research Question 1b: Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of content areas, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of content areas used. There was not a statistically significant relationship between program enrollment and number of content areas taught (p = .084, r = -.208).

Research Question 2a: Will the number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of instructional categories used were different based on the type of institution, a new variable was created to determine the sum of instructional categories selected by each program director. A t-test was performed with institution type and the sum variable of instructional categories. The mean number of instructional categories used in public schools was M = 2.13 and private schools was M = 2.09. The t-test indicated there was not a

statistically significant difference between institution type and the number of instructional categories used ($p = .848$).

Research Question 2b: Will the number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of instructional categories, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of instructional categories used. There was not a statistically significant relationship between program enrollment and the number of instructional categories used ($p = .199$, $r = -.155$).

Research Question 3a: Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

A t-test was performed with institution type and instructional time. The mean instructional time for public schools was $M = 32.00$ and private schools was $M = 28.79$. A t-test indicated that there was not a statistically significant difference between institution type and instructional time ($p = .583$).

Research Question 3b: Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

A Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and amount of instructional time. There was not a statistically significant relationship between program enrollment and the amount of instructional time used to teach mental and behavioral health content ($p = .339$, $r = .120$).

Research Question 4a: Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of locations where the content is taught is different based on the type of institution, a new variable was created to determine the sum of locations selected by each program director. The mean number of locations for public schools was $M = 4.02$ and private schools was $M = 3.30$. A t-test was performed with institution type and the sum variable of locations. There was not a statistically significant difference between institution type and the number of locations ($p = .236$).

Research Question 4b: Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of locations, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of locations mental and behavioral health is taught within the curriculum. There was not a statistically significant relationship between program enrollment and number of locations ($p = .214$, $r = .150$).

Research Question 5a: Will the number of strategies that are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of assessment strategies were different based on the type of institution, a new variable was created to determine the sum of assessment strategies selected by each program director. A t-test was performed with institution type and the sum variable of assessment strategies. The mean number of assessment strategies used by public schools was M = 3.98 and private schools was M = 3.57. The t-test indicated that there was not a statistically significant difference between institution type and the number of assessment strategies used ($p = .288$).

Research Question 5b: Will the number of strategies being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of assessment strategies, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of assessment strategies used. There was not a statistically significant relationship between program enrollment and number of assessment strategies used ($p = .416$, $r = .099$).

Research Question 6a: Will the number of instructor types teaching content related to mental and behavioral health in entry-level, CAATE-accredited level athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of instructors were different based on the type of institution, a new variable was created to determine the sum of instructors selected by each program director. The mean number of instructors for public schools was M = 1.43 and private schools was M = 1.17. A t-test was performed with institution type and the sum variable of instructor. There was not a statistically significant difference between institution type and the number of instructors ($p = .106$).

Research Question 6b: Will the number of instructor types teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of instructors, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of instructors used. There was a statistically significant relationship between program enrollment and number of instructors used; however, the relationship was weak ($p = .023$, $r = .271$).

Research Question 7a: Will the number of student engagement strategies used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of student engagement strategies used were different based on the type of institution, a new variable was created to determine the sum of student engagement strategies selected by each program director. The mean number of engagement strategies used by public schools was M = 6.66 and private schools was M = 6.73. A t-test was

performed with institution type and the sum variable of student engagement strategies. There was not a statistically significant difference between institution type and the number of student engagement strategies used ($p = .925$).

Research Question 7b: Will the number of student engagement strategies used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of student engagement strategies, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of student engagement strategies used. There was not a statistically significant relationship between program enrollment and number of student engagement strategies used ($p = .886$, $r = -.018$).

Research Question 8a: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?

To determine if the number of resources used were different based on the type of institution, a new variable was created to determine the sum of resources selected by each program director. The mean number of resources used by public schools was $M = 5.30$ and private schools was $M = 4.91$. A t-test was performed with institution type and the sum variable of resources. There was not a statistically significant difference between institution type and the number of resources used ($p = .491$).

Research Question 8b: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs

in the United States be significantly related to the number of students enrolled in the program?

Using the newly created sum variable for the number of resources, a Pearson's correlation was performed to determine if there was a relationship between the number of students enrolled in the program and the number of resources used. There was not a statistically significant relationship between program enrollment and number of resources used ($p = .851$, $r = .023$).

Themes of Open Response Questions

Questions 16 and 17 of the survey were open-response. Question 16 asked respondents to indicate what challenges are associated with integrating mental and behavioral health into the curriculum. This question yielded 40 responses (57.1%). Three themes emerged from the responses: lack of time (13/40), lack of resources (8/40), and lack of real-world experiences (9/40). One participant acknowledged all three of these challenges in their response:

> As the need to address mental and behavioral health expands, the challenge is to find room and adequate resources to provide both live clinical experiences and simulated experiences for students to reinforce skills and knowledge taught in the course on mental and behavioral health.

Question 17 provided respondents with an opportunity to add any additional information they felt was not addressed in the survey. Only seven participants (10%) responded to this question. Responses to this question were related to content delivery methods within their program. Participants noted the use of standardized patients, interprofessional education experiences, and outside training courses to better prepare students. One participant touched on specific strategies used in their program:

> We have a great master's degree in psychology and counseling here at our institution. That allows us to utilize their students to serve as simulated patients for our students as part of an IPE experience. We have them simulate a patient with a mental health concern, and the AT students have to interact and intervene with an appropriate referral. Those are recorded and the two students debrief and reflect on the videos.

Summary of Results

In summary, 70 program directors responded to the electronic survey, which yielded a response rate of 28.2%. Majority of programs (n = 67) are offered at the graduate level and the remaining programs (n = 3) are offered at the undergraduate level. Forty-seven programs are housed at public institutions and 23 are housed at private institutions. The average institutional enrollment was 19,127.21 students with an average program enrollment of 21.71 students. Public institutions had an average institutional enrollment of 23,958.29 students and an average program enrollment of 21.47 students. Private institutions had an average institutional enrollment of 9,673.91 students and an average program enrollment of 22.22 students. The average program budget was $75,272.73, with public institutions having an average budget of $76,080.65 and private institutions having an average budget of $175,294.10. Most institutions represented have NCAA Division I athletic programs (public = 35, private = 8). NCAA Division II (public = 6, private = 3), NCAA Division III (public = 6, private = 9), and NAIA Division I (public = 0, private = 3) were also represented.

The descriptive statistics revealed the most frequently selected responses for each research question. To answer research question 1, participants selected all the content areas that are covered within their curriculum. The five most frequently reported content areas taught are "depression" (97.1%), "confidentiality" (95.7%), "suicide prevention" (95.7%), "anxiety

disorders" (94.3%), and "suicidal ideation" (94.3%). To answer research question 2, participants reported all the instructional categories that are used to teach mental and behavioral health content. Didactic instruction was reported by 98.3% of participants. To answer research question 3, participants manually typed the number of instructional hours they spend teaching mental and behavioral health content. On average, 33.81 hours are spent teaching this content. Reporting 41-50 hours of instructional time teaching this content were 25.7% of participants, 22.9% reported 11-20 hours, and 20.0% reported less than 10 hours. To answer research question 4, participants selected all curricular areas that mental and behavioral health content was addressed. The three most frequently reported curricular areas were psychosocial/behavioral health coursework (67.1%), general medical coursework (45.7%), and emergency and immediate care (41.4%). To answer research question 5, participants selected all strategies used within their program to assess students on mental and behavioral health content. Majority reported multiple choice tests (90.0%), 74.3% reported problem/case-based assessment, and 68.6% reported that skills competencies and practicals are used. To answer research question 6, participants selected all instructor types used to teach mental and behavioral health content. Full-time faculty members (90.0%) and guest lecturers (24.3%) were most frequently reported. To answer research question 7, participants selected all strategies utilized to engage students when teaching mental and behavioral health content. Lecture (95.7%), discussion-based (74.3%), problem/case-based (72.9%), and role-playing (71.4%) were the most frequently reported strategies. Finally, to answer research question 8, participants selected all resources used to teach mental and behavioral health content within their program. Mental Health First Aid training or other similar courses (50%) and faculty members with continuing education credits or certifications (47.3%) were frequently reported. The NATA Position Statement related to disordered eating (82.9%),

the NATA Consensus Statement related to psychosocial considerations in collegiate athletes (78.6%), and the NCAA mental health best practices (64.3%) were frequently reported.

The inferential statistics tested whether there was a statistically significant difference between public and private institutions, as well as if there was a statistically significant relationship between the number of students enrolled in the program and each variable. There were no statistically significant differences between public and private institutions and educational practices associated with teaching mental and behavioral health content in entry-level, CAATE-accredited athletic training programs. One statistically significant relationship was found between the number of instructor types and the number of students enrolled in the program; however, the relationship was weak ($p = .023$, $r = .271$). This indicates that practices are similar regardless of institution type and program enrollment numbers. However, the descriptive analysis provides valuable information about common practices regardless of institution type and program size.

The open-response questions provided qualitative information related to mental and behavioral health education within entry-level athletic training education. The themes that emerged related to the challenges that programs face when implementing this content were lack of time, lack of resources, and lack of real-world experiences. Participants reported in the final question that standardized patients, interprofessional education experiences, and outside training courses would be beneficial tools for delivering this content.

Chapter 5

Discussion

The purpose of this research was to examine the preparation and educational practices used in entry-level, CAATE-accredited athletic training programs in the United States to prepare athletic training students to recognize and initiate care for the mental and behavioral health needs of their patients. Additionally, this study explored if program enrollment numbers and the type of institution (public or private) in which the program is housed significantly impacted the educational practices used in preparing athletic training students to recognize and initiate care for the mental and behavioral health needs of their patients.

The survey asked program directors of entry-level, CAATE-accredited athletic training programs to answer questions about how mental and behavioral health content is incorporated within their curriculum. Program directors were asked to identify all content areas or topics that are addressed; the amount of total instructional time spent; the types of instructors teaching the content such as athletic training faculty and content experts; the types of resources used such as Mental Health First Aid certification or similar courses and professional statements; strategies employed to deliver content such as didactic and clinical; methods used to engage students such as lecturing, problem-based learning, role-playing and patient interactions; and assessment strategies such as multiple-choice, skills competencies, and case-based assessments.

According to the results of this study, there was no statistically significant difference between public and private institutions in the content areas that are taught, instructional categories used, the amount of instructional time spent, the location of content within the program curriculum, the strategies used for assessment, the type of instructors used, the student

engagement strategies, or personnel and instructional resources used. This suggests that the educational experience is similar regardless of the type of institution the program is housed in.

Similarly, there was no significant relationship found between the number of students enrolled in the athletic training program and the content areas that are taught, the instructional categories used, the amount of instructional time spent, the location of content within the program curriculum, the strategies used for assessment, the student engagement strategies used, or personnel and instructional resources used. There was, however, a weak relationship between program enrollment and the number of instructor types used. These findings suggest that students are receiving similar educational experiences regardless of the number of students enrolled in the program.

While athletic trainers are not mental health professionals and cannot diagnose or treat patients with mental and behavioral health conditions, they are expected to be competent in the identification and referral of the mental and behavioral health needs of those that they provide care for (BOC, 2021; CAATE, 2022). The CAATE mandates that all CAATE-accredited athletic training programs educate students in this content, but much freedom is provided to each program in how they implement this training (CAATE, 2022). However, the result of this study reveals many similarities in the methods used to teach this content among athletic training programs.

Standards 77 and 94 of the 2020 CAATE Standards (2022) articulate the required content that must be addressed by athletic training programs. To explore what content is being taught, the primary researcher identified 32 content areas using the 2020 CAATE Standards, BOC Practice Analysis 8th edition, NCAA Mental Health Best Practices, and the NATA Consensus Statement. Each of the 32 content areas identified and used in the questionnaire were reported by more than

half of program directors as content that is taught. The most frequently reported topics were "depression," "suicide prevention," "anxiety disorders," and "suicidal ideation," all of which are explicitly stated in Standard 77 of the 2020 CAATE Standards. Other frequently selected content areas include "self-care, stress management, coping-strategies, and personal health promoting practices," "eating disorders and disordered eating," "legal considerations," "patient education related to mental and behavioral health," "developing a plan of care related to mental and behavioral health," "emergency mental health referral," "substance misuse and abuse," "emergency management of drug overdose," and "identification of mental and behavioral health conditions." The least frequently reported topics include "epidemiology of mental and behavioral health disorders," "selection, administration, and interpretation of questionnaires and screening tools to assess mental and behavioral health status," "monitoring patient's treatment, compliance, and progress when caring for a patient with mental or behavioral health conditions," "psychosis," and "identifying subclinical changes in mood and behavior." While it is encouraging that so many topics are covered within the curriculum, the questionnaire did not identify to what depth each of the topics are addressed.

The amount of instructional time used to teach mental and behavioral health content ranged from 2 to 90 hours. Without having a required number of instructional hours set by the CAATE, programs are free to choose how much time is dedicated to each of the Standards. Over 25% of program directors reported they spent between 41-50 hours of instructional time teaching this content, which by the definition provided in the questionnaire, are likely programs that have a 3-credit hour class dedicated to this content. More than 40% of program directors reported they spent less than 20 hours addressing this content, which is understandable since this is not a primary area of focus for athletic training practice. However, 14% of program directors reported

they spent more than 50 hours addressing this content. The current available literature does not indicate the amount of time spent teaching this content; however, descriptions of mental and behavioral health courses in athletic training program curricula are available (Feld et al., 2018; Ostrowski et al., 2021; Plos et al., 2021; Walker et al., 2016).

Mental and behavioral health content is taught throughout the program curriculum but was most often reported in Psychosocial/Behavioral Health, General Medicine, and Emergency and Immediate Care coursework. Clinical education and interprofessional education were also reported as areas that this content is being incorporated into the curriculum. Program directors noted in the open response that it is difficult to have students involved with patient care during clinical education due to the sensitivity and episodic nature of mental and behavioral health concerns, which may help to explain why only 41.1% of program directors reported using clinical education as the modality to teach this content.

Full-time faculty members were most frequently reported as the instructor type utilized to teach mental and behavioral health content. Guest lecturers and faculty members in psychology, counseling, and social work were utilized less frequently; however, the available literature describing how mental and behavioral health content is taught within specific programs often includes the use of one of these other instructor types (Feld et al., 2018; Ostrowski et al., 2021; Plos et al., 2021). Mental and behavioral health content was most frequently reported to be delivered in didactic education, primarily through lecture; however, active learning strategies such as discussions, problem- or case-based learning, and role-playing were also reported, which is consistent with the available literature (Feld et al., 2018; Ostrowski et al., 2021; Plos et al., 2021; Walker et al., 2016; Winkelmann et al., 2022).

This study reveals that entry-level, CAATE-accredited athletic training programs are integrating mental and behavioral health content throughout the curriculum, and that the education received by athletic training students across the country is similar regardless of institution type or the number of students enrolled in the program. However, the current literature around athletic trainers' confidence and preparedness to identify, manage, and refer mental and behavioral health conditions suggests that clinicians desire more education and that they feel underprepared (Clement et al., 2013; Cormier & Zizzi, 2015; LaRue, 2013; Ostrowski et al., 2023; Stiller-Ostrowski & Ostrowski, 2009; Zakrajsek et al., 2016). One survey of athletic trainers found that many felt dissatisfied with or slightly satisfied with the education they received related to recognizing and referring student-athletes with mental health concerns (Ostrowski et al., 2023). A few possibilities for this disconnect are the number of years an athletic trainer has been out of school, the advancement in education requirements as it relates to this content, and the strategies used to deliver this content. Additionally, the curricular requirements of athletic training education are demanding; therefore, it may be difficult to incorporate this content adequately for students to feel confident and competent with mental and behavioral health concerns.

Recommendations for Education

This study found that education in mental and behavioral health content in athletic training programs occurred most frequently in the didactic coursework with lecturing, problem- or case-based learning, discussion-based learning, and role-playing being the most frequently reported means of student engagement. However, in the open-ended responses, participants alluded to a lack of real-world patient encounters or quality simulations to prepare athletic training students for actual patient care. As a result of their findings, Ostrowski et al. (2023)

recommended a greater use of practical active-learning strategies including real-time patient interactions, standardized patient encounters, preceptor-led education following a patient encounter, and other interactive activities such as exploratory counseling sessions, certification courses, and reflective journaling.

As program directors and faculty members evaluate their program's curriculum, they should consider how they may incorporate some of these practical active-learning strategies to teach mental and behavioral health content. Lecturing, problem-/case-based learning, and discussion-based learning have a place in providing the foundational knowledge for entry-level athletic trainers; however, students must also be provided opportunities to apply and implement that knowledge into patient care.

Recommendations for Future Research

The primary aim of this study was to explore current preparation and educational strategies for teaching mental and behavioral health content in entry-level, CAATE-accredited athletic training programs. To explore this further, a qualitative research study could be conducted to understand the current educational practices more deeply through interviews and/or focus groups with athletic training program directors. Additionally, to further investigate the disconnect between what program directors say they're doing and why clinicians have felt inadequately prepared, the survey used for this study could be modified slightly and used to ask recent graduates about their educational experiences. The results could then be compared to the findings of the current study. Finally, further research asking clinicians to identify areas of weakness when it comes to identifying and managing mental and behavioral health concerns and what they believe would have better prepared them during their educational training could provide valuable insight for educators.

Conclusion

This research highlights common educational practices used to teach athletic training students mental and behavioral health content in entry-level, CAATE-accredited athletic training programs. This study also found that there was no difference in educational practices between public and private institutions, and that there is no relationship between the number of students enrolled in the program and the educational practices except for a weak, positive relationship with instructor type. These findings indicate that students across the United States are receiving a similar education related to content areas addressed, instructors and resources used, time spent, and delivery, engagement, and assessment strategies used to teach mental and behavioral health content regardless of the type of institution or size of the program.

As program directors and faculty members evaluate the program curriculum, they should investigate or identify ways to incorporate practical, active-learning strategies to further prepare students for identifying and initiating care for patient's struggling with mental and behavioral health concerns. Since it is challenging to provide students with real-time patient-care opportunities, it is important to provide students with simulations that mimic real-world experiences. These practical, active-learning strategies in conjunction with the lecture and discussion-based learning that is already occurring may better prepare students for these patient interactions. Because it is expected that athletic trainers will encounter a patient with mental or behavioral health concerns, athletic training programs are expected to equip their students with the necessary knowledge and skills to provide quality care to their patients.

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Appendix A

Resource Checklist for Mental Health Care

Resource Checklist for Mental Health Care

Below is a checklist that can be used as a resource when evaluating institutional mental health plans. Please note that "Best Practices" do not provide prescriptive details regarding clinical care. As such, care is individualized for the needs of each student-athlete and is based on evidence-based care that is within the scope of practice for the primary athletics health care providers (athletic trainers and team physicians) and the licensed practitioner who is qualified to provide mental health services.

1. Clinical Licensure of Practitioners Providing Mental Health Care

- ❑ Mental health care of student-athletes should be done in collaboration with the primary athletics health care providers (athletic trainers and team physicians) and the licensed practitioners who are qualified to provide mental health services.
- ❑ Formal mental health evaluation and treatment for student-athletes is provided ONLY by practitioners who are qualified to provide mental health services (clinical or counseling psychologists, psychiatrists, licensed clinical social workers, psychiatric mental health nurses, licensed mental health counselors, board certified primary care physicians with core competencies to treat mental health disorders.)
- ❑ Individuals providing mental health care to student-athletes have autonomous authority, consistent with their professional licensure and professional ethical standards, to make mental health management decisions for student-athletes.
- ❑ Individuals providing mental health care to student-athletes should have cultural competency in treating student-athletes from diverse racial, ethnic, gender identified, and other unique cultural experiences influencing help-seeking.
- ❑ Individuals providing mental health care to student-athletes ideally should have cultural competency in working with collegiate student-athletes, as evidenced by professional training related to athletics, continuing education courses related to athletics or other professional development activities or experiences related to athletics.

2. Procedures for Identification and Referral of Student-Athletes to Qualified Practitioners

Mental Health Emergency Action Management Plan (MHEAMP) that specifies:

- ❑ Situations, symptoms or behaviors that are considered mental health emergencies.
- ❑ Written procedures for management of the following mental health emergencies:
  - ❑ Suicidal and/or homicidal ideation.
  - ❑ Sexual assault.
  - ❑ Highly agitated or threatening behavior, acute psychosis or paranoia.
  - ❑ Acute delirium/confusional state.
  - ❑ Acute intoxication or drug overdose.
- ❑ Situations in which the individual responding to the crisis situation should immediately contact emergency medical services (EMS).
- ❑ Individuals responding to the acute crisis should be familiar with the local municipality protocol for involuntary retention, e.g., if the student-athlete is at risk of self-harm or harm to others.
- ❑ Situations in which the individual responding to the crisis situation should contact a trained on-call counselor.

- ❑ Identifying trained on-call counselors who will be able to provide direct and consultative crisis intervention.
- ❑ The management expectations of each stakeholder within athletics during a crisis situation.
- ❑ Specific steps to be taken after an emergency situation has resolved to support the student-athlete who has experienced the mental health emergency.
- ❑ A procedure for reviewing preventive and emergency procedures after the resolution of the emergency situation.
- ❑ A formal policy for when student-athlete family members will be contacted in the event of a mental health emergency.

Routine mental health referral plan that specifies:

- ❑ Situations, symptoms or behaviors that may indicate a possible nonemergency mental health concern.
- ❑ The licensed mental health professional to whom student-athletes with possible nonemergency mental health concerns should be referred.
- ❑ Who should be responsible for making the referral to a licensed practitioner who is qualified to provide mental health services.

Communication about mental health management plans:

- ❑ MHEAMPs are provided to all stakeholders within athletics who work with student-athletes, clearly specifying each stakeholder's role in managing a crisis situation.
- ❑ Annual communication is conducted with all stakeholders within athletics who work with student-athletes about the importance of reviewing their role in all emergency action plans – specifically the MHEAMP.
- ❑ All stakeholders within athletics who work with student-athletes are provided with written instructions about the practitioners to whom student-athletes with potential non-emergency mental health concerns should be referred.

3. Pre-Participation Mental Health Screening

- ❑ Screening quesionnaire(s) for mental health disorders are considered as part of the pre-participation exam.
- ❑ A procedure is established for when and to whom symptomatic or at-risk student-athletes identified through this screening process will be referred.
- ❑ All decisions related to what approach will be taken to screening (including what screening instrument to consider and what responses or scores on this instrument warrant further follow-up) will be made by the primary athletics health care providers (athletic trainers and team physicians) in collaboration with the licensed practitioners who are qualified to provide mental health services. Examples may include those listed in Appendix F.

4. Health-Promoting Environments that Support Mental Well-Being and Resilience

- ❑ The primary athletics health care providers and the licensed practitioners who are qualified to provide mental health services to student-athletes meet on an annual basis and develop strategies for educating student-athletes about institutional procedures for mental health referrals and management.
- ❑ All SAAC representatives and student-athletes receive information on an annual basis about:
  - ❑ Signs and symptoms of mental health disorders and how to obtain mental health guidance from the primary athletics health care providers (athletic trainers and team physicians) and licensed practitioners who are qualified to provide mental health services.
  - ❑ Programming about preventing and responding to sexual assault, interpersonal violence and hazing.
  - ❑ Programming about peer intervention in the event of teammate mental health distress.
- ❑ All coaches and faculty athletics representatives receive information on an annual basis about:
  - ❑ Programming to support 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 relations with others.
  - ❑ Information about sexual assault, interpersonal violence and hazing.
  - ❑ How to encourage and support team members who are facing mental health challenges to seek appropriate management and referrals from the primary athletics health care providers (athletic trainers and team physicians) and licensed practitioners who are qualified to provide mental health services.
  - ❑ The specific referral process that coaches should follow if they are concerned about a 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.

Appendix B

Older Adult Curriculum in Physical Therapy Education

Question 1: Program Type: Check one response

- Physical Therapy Program
- Physical Therapist Assistant Program

For the following questions, older adult is defined as > 65 years old (Centers for Disease Control and Prevention, 2015).

*Question 2: Who teaches older adult content in your curriculum?

Instructor Type: Select all that apply.

- A full-time faculty member
- A part-time faculty member
- An adjunct instructor
- A guest clinical lecturer
- A contracted content expert

*Question 3: Estimate how much instructional time is dedicated to older adult content in your curriculum: ____ % (out of 100% of the entire curriculum).

Question 4: How is content regarding the older adult population included in your physical therapy curriculum?

Curriculum areas: Select all that apply.

- Basic Sciences
- Behavioral-social sciences
- Clinical sciences
- Professional physical therapy practice
- Clinical experience requirement
- Clinical experience opportunity (Pro Bono clinic, observations, extra clinical hours)

- Interprofessional education experience (two or more disciplines)

Question 5: Which of the following curriculum instructional category is used to teach older adult content?

Curriculum instructional categories: Select all that apply.

- Didactic
- Laboratory
- Clinical
- Research

Question 6: Older adult course content is delivered Course(s) Delivery: Select One Response that is the most utilized.

- in one course offering in the curriculum.
- integrated in multiple course offerings in the curriculum.
- interprofessional education experiences in the curriculum.

*Question 7: Older adult course content instructional delivery method utilizing Instructional Delivery Method: Select all that apply

- lecture.
- laboratory/skills.
- case-based delivery.
- project-based delivery.
- online delivery in part or whole.
- podcast and video recording delivery method.
- an outside organization with expertise provides instruction and materials (International Clinical Educators (ICE) Learning Center, MedBridge, American Physical Therapy Association Learning Center module, etc.).
- community-based learning activities.
- interprofessional education experience/activity.

Question 8: Which of the following topics relating to the older adult population are taught in your program's curriculum?

Topics: Select all that apply.

- Theories of aging
- Strategies for teaching older adults
- Medical conditions associated with older adults
- Mental health screening, assessments, and interventions
- Disease prevention and health promotion
- Psychosocial factors of care
- Pharmacology considerations in the older adult care
- Imaging
- Nutrition
- Communication
- Cognitive screening, assessments, and interventions
- Functional screening, assessments, and interventions
- Frailty screening, assessments, and interventions
- Fall risk screening, assessments, and prevention interventions
- Treatment modalities
- Environmental screening, assessments, and modifications
- Care planning and coordination across the care spectrum
- Discharge planning based on various settings
- Community resources available to assist older adults
- Caregiver support
- Interdisciplinary and team care
- Legislation
- Economic issues
- Healthcare systems and benefits
- Third-party reimbursement
- Advocacy for older adults
- Diversity in the aging population

*Question 9: Which of the following student engagement strategies(s) is used to teach older adult content?

Engagement methods: Select all that apply.

- Lecture format (in-person & virtually)

- Problem or Case-based format
- Discussion- based format (in class or virtual, discussion boards)
- Psychomotor skills activities and experiences
- Instructor modeling clinical skills and performance in an older adult session
- Instructor directed feedback on clinical skills and performance (written, oral, virtually)
- Older adult interaction with older adult providing feedback on skills and performance
- Real-time learner performance assessment and feedback
- Student-led activities (presentations and summary reports)
- Interprofessional activity
- Video analysis
- Role playing
- Simulated patient experiences
- Older adult contact experiences
- Community-based project or activity
- Interactive electronic tools (games such as Kahoots, Gimkit, collaborative Google Document and online white board/mapping, and platform chat features in Google, Zoom, and others)
- Videos (YouTube, TED Talks, Educational Instruction)

*Question 10: Which of the following learner assessments of knowledge and skills of older adult content is used in your program?

Learner Assessment: Select all that apply.

- Multiple choice testing (quiz and/or exam in select response format)
- Problem/Case-based assessments (written, video, virtual)
- Skill competencies and practicals (performance-based)
- Individual project(s)
- Group project(s)
- Portfolio or e-Portfolio
- Research or literature review paper
- Presentation by student(s)
- Poster presentation
- Interprofessional collaborative activity (peer and/or instructor assessment)

*Question 11: Which of the following are currently employed in your program? The term, contemporary, indicates within the last three years.

Resources Employed: Select all that apply.

- Faculty and instructors with Clinical Specialist Certification in Geriatrics from the American Board of Physical Therapy Specialists
- Faculty and instructors with Certified Exercises Expert of Aging Adults (CEAA) credentials
- Faculty and instructors with contemporary continuing education in older adults
- Faculty and instructor with contemporary continuing education in teaching older adult topics
- Contemporary older adult clinical experiences of faculty and instructors
- Use of the APTA's Academy of Geriatric Physical Therapy's Essential Competencies in the Care of Older Adults in Entry-Level Physical Therapy Programs in your curriculum

*Question 12: Open comment section on physical therapy older adult curriculum

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Adapted from Geriatric Curriculum Content in Physical Therapy Education survey by Granick et al. 1987. Granick, R., Simson, S., & Wilson, L. B. (1987). Survey of curriculum content related to geriatrics in physical therapy education programs. Physical Therapy, 67(2), 234-237. https://doi.org/10.1093/ptj/67.2.23

Appendix C

Email Correspondence

Re: Capstone Survey from Radford DHSc

[redacted]
Sat 1/28/2023 4:0[redacted]
To:Castleberry,[redacted]
Great, thank you so much!

Genna

From: Castleberry[redacted]
Sent: Saturday, January 28, 2023 12:33 PM
To: Fusco, Genn[redacted]
Subject: Re: Capstone Survey from Radford DHSc

NOTICE: This email originated externally. It is not from a Radford University account. Use caution responding, opening attachments, or clicking links.

Genna,

Please feel free to use anything I have. I would be happy to help in any way I can.

Best regards,
Julia

On Sat, Jan 28, 2023 at 12:22 PM Fusco, Genn[redacted] wrote:

> Dr. Castleberry,
>
> I hope this email finds you well. My name is Genna Fusco, and I am a doctoral student in Radford University's DHSc program. I am currently working on my capstone premise with hopes to investigate current educational trends in mental health curriculum in athletic training education programs. Dr. Everhart shared with my capstone committee chair (Dr. Baskette who I've CCed on this email) that you did similar research looking at older adult curriculum in physical therapy education. Because of the similarities, Dr. Everhart and Dr. Baskette suggested that I reach out to you and ask - would you be willing to allow me to use and adapt your instrument for my capstone? I think your instrument will help me to accomplish what I am setting out to do, and you will be credited and acknowledged in my capstone.
>
> I would be happy to connect with you if you have any questions regarding this. I appreciate your consideration.

> Thank you,
>
> Genna Fusco, MEd, AT, ATC
> [redacted]

Appendix D

Mental and Behavioral Health Curriculum in Athletic Training Education Questionnaire

Program Demographics

Question 1. What is the current degree level of your CAATE-accredited, entry-level athletic training program? Select one response.

- Bachelor's degree
- Master's degree

Question 2. How many students are currently enrolled in your CAATE-accredited, entry-level athletic training program? Type in the number.

_____

Question 3. What is your annual academic budget for your entry-level, CAATE-accredited athletic training program to the nearest thousand? Type in your response.

Question 4. Is your institution a public or private school? Select one response.

- Public
- Private

Question 5. What is your institution's overall student enrollment to the nearest thousand? Type in your response.

Question 6. What is your institution's athletic competition level? Select one response.

• NCAA Division I

• NCAA Division II

• NCAA Division III

• NAIA Division I

• NAIA Division II

Mental and Behavioral Health Content

Instructions: For the following questions, please base your responses on the past three academic years.

Question 7. Who is responsible for teaching mental and behavioral health content in your curriculum?

Instructor Type: Select all that apply.

- A full-time faculty member
- A part-time faculty member
- An adjunct instructor
- A guest clinical lecturer
- A contracted content expert
- Other

Question 8. Estimate (in hours) how much total instructional time (didactic, clinical, laboratory, research) is currently dedicated to mental and behavioral health content in your curriculum. Example: One 2-hour class period = 2 hours. A 3-credit hour course = 45 hours. One 2-hour instructional lab = 2 hours.

____ hours.

Question 9. How is content regarding mental and behavioral health included in your athletic training curriculum?

Curriculum areas: Select all that apply.

- Emergency and immediate care coursework
- Injury prevention coursework
- Orthopedic evaluation coursework
- General medicine coursework
- Pharmacology coursework
- Therapeutic interventions coursework

- Organization and administration coursework
- Contemporary issues in athletic training coursework
- Psychosocial or behavioral medicine coursework
- Clinical education requirement
- Interprofessional education experience (two or more disciplines)
- Other

Question 10. Which of the following curriculum instructional categories are currently being used to teach mental and behavioral health content?
Curriculum instructional categories: Select all that apply.

- Didactic
- Laboratory
- Clinical
- Research
- Other

Question 11. Which of the following instructional methods are currently being used to deliver mental and behavioral health course content?
Instructional Delivery Method: Select all that apply.

- Lecture
- Laboratory/skills
- Case-based delivery
- Project-based delivery
- Online delivery in part or whole
- Podcast and video recording delivery method
- An outside organization with expertise is utilized to provide instruction and materials (e.g., National Council for Mental Wellbeing, MedBridge, John Hopkins Center for Public Health Preparedness, etc.)
- Interprofessional education experience/activity
- Other

Question 12. Which of the following topics related to mental and behavioral health are currently being taught in your program's curriculum?

Topics: Select all that apply.

- Epidemiology of mental and behavioral health disorders
- Patient education related to mental and behavioral health
- Self-care, stress management, coping-strategies, and personal health promoting practices
- Developing plan of care related to mental and behavioral health
- Routine mental health referral
- Emergency mental health referral
- Types of mental and behavioral health professionals
- Substance misuse and abuse
- Emergency management of drug overdose
- Administering Naloxone
- Obtaining a medical history appropriate for mental and behavioral health
- Selection, administration, and interpretation of questionnaires and screening tools to assess mental and behavioral health status
- Mental health and psychological needs associated with concussions or other brain injuries
- Identification of mental and behavioral health conditions
- Monitoring patient's treatment, compliance, and progress when caring for a patient with mental or behavioral health conditions
- Suicidal ideation
- Suicide prevention
- Depression
- Anxiety disorder
- Mania
- Eating disorders and disordered eating
- Attention deficit disorders

- Non-suicidal self-injury
- Psychosis
- Development and implementation of policies and procedures related to identifying and referring patients in crisis or mental health emergency action and management plan
- Identifying subclinical changes in mood and behavior
- Approaching the student-athlete with a potential psychological concern
- Confidentiality
- Legal considerations
- Common stressors and triggering events
- Team approach to psychological evaluation and care
- Empathetic listening

Question 13. Which of the following student engagement strategies are currently being used to teach mental and behavioral health content?

Engagement methods: Select all that apply.

- Lecture format (in-person & virtually)
- Problem or Case-based format
- Discussion-based format (in class or virtual, discussion boards)
- Psychomotor skills activities and experiences
- Instructor modeling clinical skills and performance
- Instructor directed feedback on clinical skills and performance (written, oral, virtually)
- Interaction with a patient with a mental or behavioral health concern providing feedback on skills and performance
- Real-time learner performance assessment and feedback
- Student-led activities (presentations and summary reports)
- Interprofessional activity
- Video analysis
- Role playing

- Simulated patient experiences
- Community-based project or activity
- Interactive electronic tools (games such as Kahoots, Gimkit, collaborative Google Document and online white board/mapping, and platform chat features in Google, Zoom, and others)
- Videos (YouTube, TED Talks, Educational Instruction)
- Other

Question 14. Which of the following learner assessments of knowledge and skills of mental and behavioral health content are currently being used in your program?

Learner Assessment: Select all that apply.

- Multiple choice testing (quiz and/or exam in select response format)
- Problem/Case-based assessments (written, video, virtual)
- Skill competencies and practicals (performance-based)
- Individual project(s)
- Group project(s)
- Portfolio or e-Portfolio
- Research or literature review paper
- Presentation by student(s)
- Poster presentation
- Interprofessional collaborative activity (peer and/or instructor assessment)
- Other

Question 15. Which of the following personnel and/or instructional resources are currently being used in your program?

Resources Employed: Select all that apply.

- Psychology faculty member
- Counseling faculty member
- Social work faculty member

- Local mental and behavioral health clinician/professional
- Mental Health First Aid course or other certification courses
- Faculty and instructors with contemporary continuing education in mental and behavioral health
- Faculty and instructors with contemporary clinical experiences with mental and behavioral health
- NCAA Mental Health Best Practice (2020)
- NCAA National Study on Substance Use Habits of College Student-Athletes (NCAA, 2018)
- NATA Position Statement: Preventing, Detecting, and Managing Disordered Eating in Athletes (Bonci et al., 2008)
- NATA Consensus Statement: Inter-association Recommendations for Developing a Plan to Recognize and Refer Student-Athletes with Psychological Concerns at the Collegiate Level (Neal et al., 2013)
- Other

Question 16. What challenges (if any) are associated with integrating mental and behavioral health content into your CAATE-accredited, entry-level athletic training program curriculum?

Question 17. Please provide any additional information regarding mental and behavioral health content within your athletic training program curriculum that you feel was not addressed?

Appendix E

Codebook

Question	Variable Name	Values	Data Type
*Any question that is left blank will be coded in SPSS as "System Missing"			
1. What is the current degree level of your CAATE-accredited, entry-level program?	DGRELVL	1: Bachelor's degree 2: Master's degree	Categorical
2. How many students are currently enrolled in your CAATE-accredited, entry-level program?	PENROLL	0 to N	Continuous
3. What is your annual academic budget for your entry-level, CAATE-accredited athletic training program to the nearest thousand?	BUDGET	0 to N	Continuous
4. Is your institution a public or private school?	INSTYPE	1: Public 2: Private	Categorical
5. What is your institution's overall student enrollment to the nearest thousand?	INSENROL	0 to N	Continuous
6. What is your institution' athletic competition level?	ATHLETC	1: NCAA Division I 2: NCAA Division II 3: NCAA Division III 4: NAIA Division I	Categorical

		5: NAIA Division II	
7. Who is responsible for teaching mental and behavioral health content in your curriculum?	INSTRCT	1: A full-time faculty member 2: A part-time faculty member 3: An adjunct instructor 4: A guest clinical lecturer 5: A contracted content expert 6: Other	Categorical
8. Estimate (in hours) how much total instructional time (didactic, clinical, laboratory, research) is dedicated to mental and behavioral health content in your curriculum.	TIME	0 to N	Continuous
9. How is content regarding mental and behavioral health included in your athletic training curriculum?	CURRIC	1: Emergency and immediate care coursework 2: Injury prevention coursework 3: Orthopedic evaluation coursework 4: General medicine coursework 5: Pharmacology coursework 6: Therapeutic interventions coursework 7: Organization and administration coursework 8: Contemporary issues in athletic training coursework 9: Psychosocial or behavioral medicine coursework	Categorical

		10: Clinical education requirement 11: Interprofessional education experience (two or more disciplines) 12: Other	
10. Which of the following curriculum instructional categories are currently being used to teach mental and behavioral health content?	INSTRCAT	1: Didactic 2: Laboratory 3: Clinical 4: Research 5: Other	Categorical
11. Which of the following instructional methods are currently being used to deliver mental and behavioral health course content?	CNDLVM	1: lecture 2: laboratory/skills 3: case-based delivery 4: project-based delivery 5: online delivery in part or whole 6: podcast and video recording delivery method 7: an outside organization with expertise provides instruction and materials (National Council for Mental Wellbeing, MedBridge, John Hopkins Center for Public Health Preparedness, etc.) 8: interprofessional education experience/activity 9: Other	Categorical
12. Which of the following topics related to mental and behavioral health are	TOPIC	1: Epidemiology of mental and behavioral health disorders 2: Patient education related to mental and behavioral health	Categorical

currently being taught in your program's curriculum?		3: Self-care, stress management, coping-strategies, and personal health promoting practices 4: Developing plan of care related to mental and behavioral health 5: Routine mental health referral 6: Emergency mental health referral 7: Types of mental and behavioral health professionals 8: Substance misuse and abuse 9: Emergency management of drug overdose 10: Administering Naloxone 11: Obtaining a medical history appropriate for mental and behavioral health 12: Selection, administration, and interpretation of questionnaires and screening tools to assess mental and behavioral health status 13: Mental health and psychological needs associated with concussions or other brain injuries 14: Identification of mental and behavioral health conditions 15: Monitoring patient's treatment, compliance, and progress when caring for a patient with mental or behavioral health conditions 16: Suicidal ideation 17: Suicide prevention	

		18: Depression 19: Anxiety disorders 20: Mania 21: Eating disorders and disordered eating 22: Attention deficit disorder 23: Non-suicidal self-injury 24: Psychosis 25: Development and implementation of policies and procedures related to identifying and referring patients in crisis or mental health emergency action and management plan 26: Identifying subclinical changes in mood and behavior 27: Approaching the student-athlete with a potential psychological concern 28: Confidentiality 29: Legal considerations 30: Common stressors and triggering events 31: Team approach to psychological evaluation and care 32: Empathetic listening 33: Other	
13. Which of the following student engagement strategies are currently being used to teach mental and	ENGAGE	1: Lecture format (in-person & virtually) 2: Problem or Case-based format 3: Discussion-based format (in class or virtual, discussion boards)	Categorical

behavioral health content?		4: Psychomotor skills activities and experiences 5: Instructor modeling clinical skills and performance 6: Instructor directed feedback on clinical skills and performance (written, oral, virtually) 7: Interaction with a patient with a mental or behavioral health concern providing feedback on skills and performance 8: Real-time learner performance assessment and feedback 9: Student-led activities (presentations and summary reports) 10: Interprofessional activity 11: Video analysis 12: Role playing 13: Simulated patient experiences 14: Community-based project or activity 15: Interactive electronic tools (games such as Kahoots, Gimkit, collaborative Google Document and online white board/mapping, and platform chat features in Google, Zoom, and others) 16: Videos (YouTube, TED Talks, Educational Instruction) 17: Other	
14. Which of the following learner assessments of knowledge and skills of mental	ASSESS	1: Multiple choice testing (quiz and/or exam in select response format)	Categorical

and behavioral health content are currently being used in your program?		2: Problem/Case-based assessments (written, video, virtual) 3: Skill competencies and practicals (performance-based) 4: Individual project(s) 5: Group project(s) 6: Portfolio or e-Portfolio 7: Research or literature review paper 8: Presentation by student(s) 9: Poster presentation 10: Interprofessional collaborative activity (peer and/or instructor assessment) 11: Other	
15. Which of the following personnel and/or instructional resources are currently being used in your program?	RSOURC	1: Psychology faculty member 2: Counseling faculty member 3: Social work faculty member 4: Local mental and behavioral health clinician/professional 5: Mental Health First Aid course or other certification courses 6: Faculty and instructors with contemporary continuing education in mental and behavioral health 7: Faculty and instructors with contemporary clinical experiences with mental and behavioral health 8: NCAA Mental Health Best Practice (2020)	Categorical

		9: NCAA National Study on Substance Use Habits of College Student-Athletes (NCAA, 2018) 10: NATA Position Statement: Preventing, Detecting, and Managing Disordered Eating in Athletes (Bonci et al., 2008) 11: NATA Consensus Statement: Inter-association Recommendations for Developing a Plan to Recognize and Refer Student-Athletes with Psychological Concerns at the Collegiate Level (Neal et al., 2013) 12: Other	
16. What challenges (if any) are associated with integrating mental and behavioral health content into your CAATE-accredited, entry-level athletic training program curriculum?	CHALNG	Text response	Text
17. Is there any additional information regarding mental and behavioral health content within your athletic training program curriculum that was not addressed?	ADDINFO	Text response	Text

Appendix F

Data Analysis Table

RQ1a: Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly different based on the type of institution?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
1aH.	The number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on institution type.	INSTYPE	Categorical	TOPIC	Continuous (sum of variable)	t test
RQ1b. Are the number of content areas, beyond what is minimally required, related to mental and behavioral health that are being taught in entry-level, CAATE-accredited athletic training programs in the United States, significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
1bH.	The number of content areas, beyond what is minimally required, related to mental and behavioral health that are	PENROLL	Continuous	TOPIC	Continuous (sum of variable)	Correlation

	being taught in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.					
RQ2a. Will the number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
2aH.	The number of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.	INSTYPE	Categorical	INSTRCAT	Continuous (sum variable)	t-test
RQ2b. Will the specific types of instructional categories used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**

2bH.	The instructional category used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.	PENROLL	Continuous	INSTRCAT	Continuous (sum variable)	Correlation
RQ3a. Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
3aH.	Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.	INSTYPE	Categorical	TIME	Continuous	t-test

RQ3b. Will the amount of instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
3bH.	Instructional time devoted to teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.	PENROLL	Continuous	TIME	Continuous	Correlation
RQ4a. Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
4aH.	The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United	INSTYPE	Categorical	CURRIC (sum of variable)	Continuous	t-test

	States will be significantly different based on the type of institution.					
RQ4b. Will the number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
4bH.	The number of locations where content related to mental and behavioral health is taught within the curriculum of entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.	PENROLL	Continuous	CURRIC (sum of variable)	Continuous	Correlation
RQ5a. Will the number of strategies that are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**I**V(s)	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
5aH.	The number of strategies used to assess student knowledge on mental	INSTYPE	Categorical	ASSESS (sum of variable)	Continuous	t-test

	and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.					
RQ5b. Will the number of strategies that are being used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
5bH.	The number of strategies used to assess student knowledge on mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.	PENROLL	Continuous	ASSESS (sum of variable)	Continuous	Correlation

RQ6a: Will the number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited level athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**I**V(s)	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
6aH.	The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.	INSTYPE	Categorical	INSTRCT (sum of variables)	Continuous	t-test
RQ6b: Will the number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
6bH.	The number of instructors that are teaching content related to mental and behavioral health in entry-level, CAATE-accredited athletic training	PENROLL	Continuous	INSTRCT (sum of variable)	Continuous	Correlation

	programs in the United States will be significantly related to the number of students enrolled in the program.					
RQ7a. Will the number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**I**V(s)	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
7aH.	The number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the type of institution.	INSTYPE	Categorical	ENGAGE (sum of variable)	Continuous	t-test
RQ7b: Will the number of student engagement strategies that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
7bH.	The number of student engagement strategies that	PENROLL	Continuous	ENGAGE (sum of variable)	Continuous	Correlation

	are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.					
RQ8a: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly different based on the type of institution?						
	Hypotheses	**I**V(s)	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
8aH.	The number of resources that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly different based on the	INSTYPE	Categorical	RSOURC (sum of varable)	Continuous	t-test

	type of institution.					
RQ8b: Will the number of resources being used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States be significantly related to the number of students enrolled in the program?						
	Hypotheses	**IV(s)**	**IV(s) Data**	**DV(s)**	**DV(s) Data**	**Statistical Test**
8bH.	The number of resources that are used to teach content related to mental and behavioral health in entry-level, CAATE-accredited athletic training programs in the United States will be significantly related to the number of students enrolled in the program.	PENROLL	Continuous	RSOURC (sum of variable)	Continuous	Correlation

Appendix G

Institutional Review Board Study Approval Letter

RADFORD UNIVERSITY
Research Compliance Office
Institutional Animal Care and Use Committee / Institutional Review Board

July 31, 2023

TO:	Kim Baskette
RE:	Exemption Determination
STUDY TITLE:	Mental and Behavioral Health in Athletic Training Education: Current Educational Practices in Entry-Level, CAATE-Accredited Athletic Training Programs
IRB REFERENCE #:	2023-075
SUBMISSION TYPE:	IRB Initial Submission
ACTION:	Determination of Exempt IRB Review
DECISION DATE:	July 31, 2023
THREE-YEAR CHECK-IN	July 30, 2026

The above-referenced study has been determined by Radford University's Institutional Review Board (IRB) to be exempt from review. Your study has been determined to be exempt under Exempt Category 2: Educational tests, surveys, interviews, or observation of public behavior with limited IRB review. Detailed explanations of the exempt review categories are available on the Research Compliance Office webpage.

Please note that if your research includes stamped materials, they will be provided with this letter and must be used when conducting your research. A copy of your approved IRB protocol is available for your records in IRBManager under your dashboard of active protocols.

You are approved for the enrollment of 82 participants.

Note: The number approved is the number of study participants is defined as the number who enroll in the project and NOT the number of subjects with usable data for analysis. If this should change, you must submit an amendment to increase the number of study subjects.

While your project does not "expire," the Radford University IRB asks that you submit an "*IRB Three-year Check-in: Continuation of Expedited and Exempt Approved Protocols*" to let the IRB know your project remains active.

Should you need to make changes in your protocol, you must submit a request for amendment for review to determine if the application remains in an Exempt review category before implementing the changes. Amendments must be submitted via the IRBManager system. Please contact our office for assistance, if needed.

As the principal investigator for this project, you are ultimately responsible for ensuring that your study is conducted in an ethical manner. You are also responsible for filing all reports related to this project.

If you have any questions, please contact the Research Compliance Office at 540.831.5290 or irb-iacuc@radford.edu. Please include your study title and reference number in all correspondence with this office.

Radford University IRB
Approval Date: July 31, 2023

Appendix H

Informed Consent

RADFORD UNIVERSITY

You are invited to participate in a research survey, entitled *"Mental and Behavioral Health in Athletic Training Education: Current Educational Practices in Entry-Level, CAATE-Accredited Athletic Training Programs."* This research study is being conducted by Genna Fusco from the Department of Public Health and Healthcare Leadership of Radford University Carilion, in collaboration with Cedarville University, as part of my doctoral capstone project.

101 Elm Ave, SE
Roanoke, VA 24013
Email: gfusco@radford.edu

The purpose of this study is to examine the educational practices used in entry-level, CAATE-accredited athletic training programs in the U.S. to prepare athletic training students to recognize and initiate care for mental and behavioral health needs of their patients. In addition to examining common practices of CAATE-accredited athletic training programs across the country, this study will explore if program enrollment numbers and/or the type of institution (public or private) in which the program is housed significantly impacts its educational practices. Your participation in the survey will contribute to a better understanding of how CAATE-accredited programs are delivering mental and behavioral health content within their program. I estimate that this survey will take approximately 10 minutes of your time to complete.

There are no anticipated risks from participating in this research. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online; however, this risk is similar to your everyday use of the internet. The two primary investigators will have access to the data during data collection, and all collected data will be stored on a password protected device. It is important to note that Qualtrics survey software collects IP addresses; however, the researcher will not be collecting this information.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you have any questions, contact the investigator listed above.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Jeanne Mekolichick, Institutional Official and Associate Provost for Research, Faculty Success, and Strategic Initiatives, jmekolic@radford.edu, 540.831.6504.

By clicking on the survey link below, you are consenting to participate in the study.

To complete the survey, click on the link below:
[http://link to survey url]

At the end of the survey, you will have the opportunity to enter a drawing to win one of 8 pre-paid registrations to a virtual Mental Health First Aid training course. These 8 registrations have been funded by Cedarville University. If you would like to enter the drawing, follow the link in the final question of the survey to be redirected to a Google Form that will allow you to enter your name and email address. This form will be confidential and will not be linked to your survey responses.

Thank you.

Radford University
Research Compliance Office

Radford University IRB
Version January 2022
Approval Date: July 31, 2023