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Exploring the Relationship Between Student Expected Engagement and Referrals to the Behavioral Intervention Team

Makenzie R. Schiemann
University of South Florida

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by

Makenzie R. Schiemann

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Major Professor: Thomas E. Miller, Ph.D.
Amber D. Dumford, Ph.D.
Jennifer Schneider, Ph.D.
Ruthann Atchley, Ph.D.

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Dedication

To my husband, Matt, who has made sacrifices, offered support, and encouraged me through this entire process. Your confidence made me believe I could do it.

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Abstract

Higher education administrators are tasked with supporting and retaining students with increasing needs. These needs often include emotional and mental health issues but can worsen to include suicidality and violence toward others. Traditional campus approaches for supporting students and intervening for violence, such as counseling and campus safety, have been reactionary rather than proactive. Behavioral Intervention Teams (BITs) have emerged as a mechanism for heading off violence before it occurs while also supporting students who may never engage in violence but need support. These teams were born out of the concept that violence is preventable and have grown into a strategy for student support and retention.

Although BITs have existed for over a decade, that they remain reactive, rather than proactive. BITs rely on community members to make a referral to the team for a student who is experiencing difficulty. This is a reactive approach, as it requires a student to already be in distress before receiving a referral for assistance. To truly be preventative, BIT administrators need the ability to predict who is likely to need a support before the individual is in distress.

To assist in developing a predictive model for BIT referrals, this study aimed to explore expected student engagement as a potential predictor that a student will need assistance. This study was conducted at a large public research institution and included first time in college (FTIC) students who enrolled between 2015 and 2019. The study used the Beginning College Survey of Student Engagement to explore the relationship between student engagement and a referral to the BIT. The BCSSE scales therefore served as the predictor, or independent, variables.

Specifically, the BCSSE scales used as the predictor variables in this study included Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment. The outcome, or dependent variable for this study, was measured by whether a student was referred to the institution's BIT at any point during the time frame for this study. Additionally, gender and race were included as covariates. Given that the predictor variables in this study were continuous and the outcome variable dichotomous, logistic regression was used to conduct the analysis.

The logistic regression demonstrated no significant relationships between individual BCSSE scales and a referral to the BIT. There was a significant relationship between expected academic perseverance and a referral to the BIT ($p = .010$) when the five BCSSE scales were included as a group of predictors. Finally, the relationship between expected academic perseverance and a referral to the BIT remained statistically significant ($p = .020$) when included in a model with the five BCSSE scales and the covariates. Additionally, students who identified their gender as another gender identity and/or preferred not to respond regarding gender were more likely to be referred to the BIT than men, and students who identified their race as Black or African American, multiple races, or preferred not to respond regarding race were significantly more likely to be referred than White students.

Despite statistically significant relationships between these variables and a referral to the BIT, this study did not lead to a predictive model for a referral to the BIT. The logistic regression models all predicted that 100% of students would not need a referral and therefore could not accurately predict a referral to the BIT.

Chapter One

Introduction

The demographic landscape in higher education has significantly diversified in the last two decades. According to The National Center for Educational Statistics (2015), between 1976 and 2014 the national enrollment of Hispanic, Black, and Asian students at institutions of higher education increased by an overall average of 7.3%. Additionally, female enrollment has risen at a faster rate than male enrollment (8% and 5%, respectively) and it is projected that the average age of the student will shift toward an older demographic in the coming years (National Center for Educational Statistics, 2015). Additionally, increasingly more students with mental health diagnoses are enrolled on campus and even those who do not have a diagnosis often experience symptoms of a mental disorder that make it difficult for them to function (American College Health Association, 2009, 2015). Thus, just as the demographics of college students have changed, so have their needs. This shift has changed the landscape of higher education, leaving higher education administrators wondering how to support this diverse body of students.

In addition to the pressure to support an increasingly diverse student body, higher education administrators are faced with the challenge of ensuring the safety and well-being of these students. On April 16, 2007 a student at Virginia Polytechnic Institute and State University (Virginia Tech) committed what remains the deadliest campus shooting in the United States. Totaling 32 deaths and 23 injuries, the Virginia Tech tragedy shocked the nation (Deisinger & Scalora, 2016). While certainly not the first incident of targeted, mass violence at an institution of higher education, the tragic shooting at Virginia Tech was the first to shed significant light on the complexity of predatory violence on a college or university campus.

Since the shooting at Virginia Tech, an entire body of literature and scholarly research has been published related to understanding targeted violence. Nearly all researchers and practitioners agree on two things: (1) violence is not spontaneous and is therefore preventable, and (2) effective violence prevention is a subcomponent of prevention, early intervention, and support efforts (Deisinger & Scalora, 2016; Eells & Rockland-Miller, 2010; National Threat Assessment Center, 2018; Sokolow et al., 2014). The conclusion that targeted violence is not spontaneous and is therefore preventable is supported by convincing research.

Vossekuil et al. (2004) found that 81% of school shooters displayed warning signs that signaled their attack and at least one person knew the shooter was planning the attack. Further, in 93% of the cases, the perpetrator engaged in behavior such as acquiring weapons or writing disturbing essays or poems that caused those around them to be concerned (Vossekuil et al, 2004). Similarly, the Virginia Tech Review Panel's (2007) analysis of the Virginia Tech shooting demonstrated that multiple individuals on campus either knew of concerning behavior related to the shooter or knew directly of the shooter's thoughts of wanting to kill others. Although the incident occurred at a high school, and not an institution of higher education, the shooter at Marjory Stoneman Douglas in Parkland, Florida also engaged in significant warning behaviors at least 2 years prior to the attack. During that 2-year span, more than 30 people noticed the student's concerning behavior (Marjory Stoneman Douglas High School Public Safety Commission, 2019).

Because targeted violence is not spontaneous, perpetrators of violence often leak specific aspects, or all of their plans, prior to the attack. O'Toole (2000) posited that while the form of the leakage can vary, all school shooters engage in leakage behavior. Leakage can include a variety of direct and indirect warning signs which range from statements of threats to innuendos to

journal entries, drawings, or videotapes (Meloy & O'Toole, 2011; O'Toole, 2000). Drysdale et al, (2010) conducted a qualitative analysis on published documents (news stories, after-action reports, law enforcement debriefs, etc.) to identify key themes related to 272 directed assaults related to college campuses in the last two decades. Drysdale et al.'s (2010) research produced results similar to Meloy & O'Toole's (2001) and noted that precipitating events are often recognizable to others as warning signs of concern. Specifically, Drysdale et al. (2010) found that perpetrators of directed assaults on or affiliated with a college or university were most often motivated by difficulties in personal relationships, academic performance, workplace issues, and individual stressors.

Researchers tend to agree that effective violence prevention is a subcomponent of comprehensive prevention, early intervention, and support efforts. When threat assessment is approached in this way, it becomes a more comprehensive strategy aimed at behavioral intervention and the overall approach is strengthened (Sokolow et al., 2014). An integrated approach allows administrators to not only provide support to any student who needs it, but to also head off threats or actual violence before it occurs (National Threat Assessment Center, 2018). Supporting students who are going through a difficult time, are depressed, angry, or otherwise upset helps schools address problems before they worsen and/or escalate to the level of a threat (Cornell, 2010).

The tragedies at Virginia Tech and Northern Illinois University the following year irrevocably altered what supporting and intervening with students means for campus administrators. The Virginia Tech Review Panel brought about some of the most significant changes in the field of violence prevention and intervention when it published recommendations regarding how colleges and universities should share information when health and safety issues

exist, and how they should review and/or revise their existing policies related to recognizing and intervening when a student is in distress (Virginia Tech Review Panel, 2007). Based on these recommendations, higher education administrators recognized the need for a formalized approach to violence prevention and intervention and began establishing behavioral intervention teams (Sokolow & Lewis, 2009).

Although initially born out of a need for threat assessment, modern behavioral intervention teams (BITs) address a diverse range of students and student needs, seeing threat assessment as a subset of the proactive and preventative work being done by the BIT (Sokolow & Lewis, 2009). Sokolow et al. (2014) posited that the purpose of modern BITs is to provide caring, preventative, early intervention with students whose behavior is disruptive or concerning. BITs are therefore tasked with identifying and supporting students in distress to reduce the individual's risk and increase safety.

Prior research on targeted violence has produced a body of recognized "red flags" that indicate a student is at risk for engaging in violence. Many of these red flags are related to student social engagement. Vossekuil et al. (2004) found that many students who engaged in targeted violence felt bullied or persecuted by their peers. Specifically, 27% socialized with students who were disliked by the mainstream students or who were considered part of an outcast group, and 34% were considered loners or self-identified as a loner (Vossekuil et al., 2004). Further, The Virginia Tech Review Panel (2007) listed isolation, being socially withdrawn, and described as a loner as red flags or warning signs for potential violence. These studies demonstrate a connection between escalation toward violence and engagement with peers.

As the scope of BITs has moved beyond violence and harm to others, so has their list of red-flag behaviors. Modern BITs are focused on a range of issues and are now seeking early indicators that a student may need help. As with indicators of violence, these early signs include many red flags related to social and academic engagement. For example, The Jed Foundation's (2011) guide for campus behavioral intervention teams provided a list of potential red-flag behaviors that should be referred to a BIT. These red flags include repeated absences from class, missed assignments or exams, being more withdrawn than usual, and lack of response to outreach from instructors or staff (The Jed Foundation, 2011). Further, the National Behavioral Intervention Team Association (2019) trains as part of their Standards and Best Practices course that BITs should look for academic and behavioral warning signs including social withdrawal or isolation, frequent absences, difficulty seeking or over-reliance on help, and poor focus or attention in class.

These lists of red flags are supported by the American Psychiatric Association's criteria for diagnosing mental disorders, as they include similar indicators in their diagnostic criteria. The diagnostic criteria for several of the most common mental health issues, including Major Depressive Disorder and Generalized Anxiety Disorder, include criteria related to social or academic engagement. For example, the criteria for Major Depressive Disorder include "markedly diminished interest or pleasure in activities," "fatigue or loss of energy," and "diminished ability to concentrate" (APA, 2013). Similarly, the *Diagnostic and Statistical Manual 5* (DSM-5) includes "easily fatigued" and "difficulty concentrating" in the Generalized Anxiety Disorder criteria (APA, 2013). The DSM-5 states that in order to meet diagnostic criteria, these symptoms must cause clinically significant distress or impairment in social, occupational, or other areas of functioning (APA, 2013). These difficulties translate to

engagement within the college environment, as students with mental disorders are more likely to miss class, have lower GPAs and experience impacts on their daily functioning (Hysenbegasi et al., 2005; Markoulakis & Kirsh, 2013; Megivern et al., 2003). Given the connection between engagement, social and occupational functioning, and levels of mental health, it is useful to explore whether anticipated engagement in the college environment is a predictor of the need for a referral for support services while enrolled in college.

Purpose and Significance of the Study

Although BITs have existed for over a decade, there remains a dearth of research on their operating practices and on the students who receive support from BITs. In their current form, BITs train their communities to make a referral at the earliest sign that a student is in distress. Even with such a focus on early intervention, BITs remain reactive, rather than proactive, as they must wait for a community member to identify that a student is in distress and make a referral. To truly engage in preventative care, BIT administrators need research on markers or indicators that increase a student's likelihood of receiving a referral to the BIT so they may proactively reach out to students who could benefit from support or create services aimed at preventing high risk students from experiencing distress or a crisis. This study aimed to enhance the preventative capacity of BITs by exploring pre-enrollment characteristics which indicate an increased likelihood of a referral to the BIT during enrollment, thus improving BIT administrators' capacity to deliver proactive services aimed at those most likely to need them.

Given the connection described above between indicators of risk and student engagement, as well as the connection between mental disorders and decreased engagement, this research on how student engagement patterns indicate a student's need for support will benefit the field of behavioral intervention. The National Survey of Student Engagement (NSSE)

measures how freshmen and senior students participate in programs and activities that promote learning and personal development at their institution of higher education (Center for Postsecondary Research, 2019). However, NSSE is administered at the end of a student's freshman year and senior year, thus asesssing their behavior after it has occurred. Unlike the NSSE, the Beginning College Survey of Student Engagement (BCSSE) is administered in the summer prior to students matriculating to college and measures how students anticipate that they will engage in the campus environment (Center for Postsecondar Research, 2019). This study therefore used the BCSSE as the methodological instrument, as it allowed the examination of predictive variables and provided insight into the factors that increase the likelihood of needing support. By using the BCSSE to explore the connection between how students expect to behave and whether they are referred to the BIT, rather than the NSSE and how they have already behaved, the results include identification of students whose anticipated behavior indicates a likelihood of referral to the BIT, thus enhacing the preventative capacity of BITs. This correlational study therefore aimed to examine the relationship between students' anticipated engagement at the university as measured by the BCSSE and whether they are referred to the university's BIT during their enrollment. This research used logistic regression analysis to examine the relationship between the predictor variable of anticipated student engagement to the criterion variable of a referral to the BIT at a large southeastern university.

The results of this study will have significant implications for BIT policy and practice. The results of the study will inform the work of BITs by assisting them in achieving their mission of preventative and early intervention work. By understanding pre-enrollment factors related to an increased likelihood for a referral to the BIT, BIT administrators will be able to offer targeted outreach, programming, or resources to students who are likely to need support

during their time at the institution. This allows BITs to offer assistance to students before a crisis occurs and to engage in truly preventative and proactive intervention.

Research Question

The research question developed for this study explored the relationship of students' self-reported expectations of engagement and the likelihood of receiving a referral to the BIT. The following research question guided this study:

> To what extent are students' expectations for collaborative learning, interaction with individuals from diverse backgrounds, academic perseverance and difficulty, and a supportive campus environment related to their likelihood to be referred to the BIT?

To answer the research question, this researcher utilized logistic regression analysis. Five Beginning College Survey of Student Engagement (BCSSE) scales served as the predictor, or independent, variables. Specifically, the BCSSE scales selected as the predictor variables included Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment. The presence of a referral to the campus BIT served as the outcome, or dependent, variable.

As the BCSSE survey is administered prior to the start of a student's matriculation to the university, significant relationships found between student responses on the survey and the presence of a referral to the BIT can assist BITs in furthering their preventative and proactive work. Factors related to student engagement both academically and socially have been shown in the literature to be tied to a student's level of mental health and occupational success. Further, the domains of academic and co-curricular engagement, as well as help-seeking behavior, align with the conceptual framework for the study, which is described below in detail. As such, the

BCSSE is an appropriate instrument for helping BITs identify early behavioral patterns for preventative care.

Definitions of Key Terms

The following definitions guided the use of these terms throughout the study:

Behavioral Intervention Team: "A small group of school officials who meet regularly to collect and review concerning information about at-risk community members and develop intervention plans to assist them" (Van Brunt et al., 2018, p. 30).

Case Management: Case managers in the higher education setting provide assessment, intervention, and coordination of services to students experiencing academic, personal, or medical difficulties to assist them in removing barriers to success and increasing their holistic well-being (Schiemann & Molnar, 2019).

Mental Health: Mental health is the complete state of a person's mental and emotional well-being. It can be described as a "state of successful performance of mental function, resulting in productive activities, fulfilling relationships with people, and the ability to adapt to change and to cope with adversity" (Satcher, 2000, p. 5).

Mental Disorder: A diagnosable mental or psychological disorder which meets the criteria as outlined in the *Diagnostic and Statistical Manual 5*.

Referral to the BIT: A referral to the BIT occurs when an individual in the community (faculty, staff, student, parent, etc.) becomes concerned for a student and passes this information on to the BIT via electronic record in order to initiate assessment and interventions.

First time in college (FTIC) student: The current institution is the first that the student has attended.

Limitations

This study relied on students' self-report of their expected engagement at the university. This presents limitations to the study, as students may have answered questions based on what they believed to be the most acceptable answers or what they believed the university wanted the students to report. Furthermore, their expectations of engagement may have been different from their actual levels of engagement.

The results of this study should not be generalized beyond FTIC students, as they were the only sample included in the study. Further, the sample does not include transfer, graduate, or international students and should not be generalized to those populations of students.

This study was conducted at a large, metropolitan, public, highly-commuter, research university. This study should not be generalized to institutions of a different type or size given the potential for differences in the number of referrals to behavioral intervention teams, levels of student engagement, and use of campus resources**.** Similarly, the results of this study should not be generalized to institutions with vastly different behavioral intervention team structures. While some variance among team structure and process is expected, teams with mission statements, scopes of practice, or marketing strategies which vary greatly from those at the research site should not generalize the results of this study to their institution.

In addition to generalizability, it is important to note limitations and cautions related to the use of data-driven decision making. Although this study did not rely on "big data" as defined by Picciano (2012), wherein a database system is "capable of storing large quantities of data longitudinally and down to very specific transactions" (p. 12), it does assume that findings of the study will be used for data-driven decision making. Data-driven decision making is "the use of data analysis to inform courses of action involving policy and procedures" (Picciano, 2012,

p. 11). Caution should be used in data-driven decision making. The use of data analysis in the decision-making process is to inform the decision maker by providing additional insight rather than replacing the expertise and judgement of individual administrators (Picciano, 2012).

Additionally, this study used a correlational research design and is not able to demonstrate causation. The results of this study should be used to inform the development of programs and practices for students at risk of needing support and not as a prescriptive, causal indicator of which students will or will not experience success or failure at the institution.

Conceptual Framework

The conceptual framework for this study was based on Keyes's Complete Mental Model built from his mental health continuum. In two landmark studies, Keyes introduced The Mental Health Continuum (2002) and The Complete Mental Health Model (2007), the second theoretical model comprising this study's conceptual framework. Keyes presents the Mental Health Continuum as a scale that represents a range of quality of mental health and scope of mental illness. Americans have historically adopted an illness-based approach to health which views health as the absence of a disorder (Keyes, 2007). Keyes challenges this notion by examining whether the absence of a mental disorder over one's lifetime results in a mentally healthy and productive individual (Keyes, 2002). Building on his concept of the Mental Health Continuum, Keyes created the Complete Mental Health Model, both of which will be described further below.

It is important to understand mental health as more than just the presence or the absence of a mental disorder. Keyes's 2002 study of the mental illness, psychological well-being, and psychological functioning and impairment of 3,032 adults in the United States found that mental health is not simply the absence of a mental disorder, nor is it simply the presence of positive,

subjective well-being (Keyes, 2002). This study was guided by the Surgeon General's definition of mental health which states that mental health is a "state of successful performance of mental function, resulting in productive activities, fulfilling relationships with people, and the ability to adapt to change and to cope with adversity" (Satcher, 2000, p. 5). Most notably, Keyes (2002) found that the presence of symptoms of flourishing did not exclude the presence of a mental disorder and the presence of a mental disorder did not exclude symptoms of flourishing. Put simply, even the most completely mentally healthy individuals experience mental disorders and even those with a mental disorder can flourish. Keyes's (2002) research suggests that simply focusing on mental disorders as the sole predictor of difficulty could result in failing to provide support to individuals who may be languishing or moderately mentally healthy. Mental health is therefore best understood as a complete state of both the presence and/or the absence of mental disorders and mental wellness (Keyes, 2002).

Keyes (2002) identified three stages along the Mental Health Continuum: languishing, moderately mentally healthy, and flourishing. Flourishing is defined by individuals with complete mental health and high levels of well-being, whereas languishing is defined by individuals with incomplete mental health and low well-being (Keyes, 2002). In the middle, individuals who are moderately mentally healthy do not meet all the criteria for being either flourishing or languishing (Keyes, 2002).

Building on the mental health continuum and the research related to the 2002 study, Keyes presented the Complete Mental Health Model (see Table 1) as a theoretical model for supporting mental health and treating mental disorders. The Complete Mental Health Model presents the concept that an individual's mental disorder is only one contributing factor of overall mental health, not the sole determinant. Complete mental health, or flourishing, can exist

in the presence of a mental disorder, as it is also comprised of emotional well-being, psychological well-being, and positive social functioning (Keyes, 2002, 2007). Keyes (2002) argued that an effective strategy must simultaneously prevent and treat mental disorders while also supporting flourishing in individuals who may not have a mental disorder but are not completely mentally healthy. Keyes (2007) cautioned that "the absence of mental illness is not the presence of mental health; flourishing individuals function markedly better than all others, but barely one fifth of the U.S. adult population is flourishing" (Keyes, 2007, p. 95). To truly support all individuals in achieving flourishing mental health, holistic strategies must be deployed that address individuals who have a mental disorder as well as those without a diagnosis but who are experiencing symptoms of distress.

Prior research has explored the connection between life functioning, including engagement and an individual's complete mental health. Researchers previously applied Keyes's theory to adolescents, college-aged individuals, and adults. In these studies, Keyes's model was applied to understanding how symptoms of mental health and mental disorders impact an individual's social, academic and occupational engagement (Fink, 2014; Keyes, 2006; Keyes et al, 2012; Low, 2011; Peter et al., 2011). These studies demonstrated a clear connection between levels of engagement, functioning, and an individual's mental health.

Table 1

Keyes's Complete Mental Health Model (Keyes, 2007)

DSM-III-R mental illness diagnosis	Languishing	Moderately mentally healthy	Flourishing
NO	Languishing	Moderate mental health	Flourishing: complete mental health
YES	Mental illness and languishing	Mental illness and moderate mental health	Mental illness and flourishing

Keyes's model was applied to research in adolescent populations to better understand the connection between mental health and school-related behaviors. Adolescents categorized as flourishing reported higher levels on all four levels of psychosocial functioning (global self-concept, self-determination, school integration, and feeling close to others; Keyes, 2006). In a pivotal study applying the Complete Mental Health Model to indicators of positive mental health in adolescents, Keyes (2006) found that all conduct problems (arrests, days of school skipped, and marijuana, cigarette, alcohol, and inhalant use) were more prevalent among languishing individuals than those who were moderately mentally healthy or flourishing. These conduct problems increased with age and as mental health declined (Keyes, 2006). In the same study, Keyes (2006) further reported on the relationship between academic engagement and mental health. Specifically, students with flourishing and moderately healthy mental health were significantly more likely to report high levels of self-determination ("I will try my best on all of my work"; Keyes, 2006). This research on adolescents indicates a relationship between engagement and mental health, as students who are less engaged at school (days skipped, arrests, other disciplinary problems) and who lack academic determination are less likely to be mentally healthy.

Prior research has also applied Keyes's Complete Mental Health Model in the adult population to explore a relationship between psychosocial functioning or impairment and levels of mental health. Keyes (2002) applied his model in a research study of secondary data including a sample of 3,032 adults ranging in age from 25 to 74 across the continental United States. This survey asked adult respondents to report on the number of full workdays missed as well as the number of days in which they had to cut back as a result of mental health. Applying his model of complete mental health, Keyes found that adults with flourishing or moderate mental health lost

the fewest number of full work days and had the fewest days of cutbacks at work (Keyes, 2002). Specifically, languishing adults were 4.5 times more likely than moderately healthy adults to miss 6 or more days of work in a 30-day period and 3 times more likely than adults with either flourishing or moderate mental health to experience severe cutbacks at work (Keyes, 2002). Keyes's research demonstrates a relationship between an adult individual's ability to engage with and succeed in the workplace and his or her level of mental health according to the Complete Mental Health Model.

When applied to the college-aged population, Keyes's model has been used to demonstrate a relationship between a student's engagement and his or her mental health. In a random sample of undergraduate students from five different institutions, Fink (2014) found that students' social and academic interactions, as well as their sense of belonging, were statistically significant predictors for a higher score within the Complete Mental Health Model. Similarly, Robitschek and Keyes (2009) applied the Complete Mental Health Model in a college-aged population and found that relationships with others and connection to the community were related to levels of overall mental health. In another study examining the relationship between student engagement and mental health, Low (2011) applied Keyes's model in a research study using data from the Cooperative Institutional Research Program First Year College Survey. Low (2011) found that students who were flourishing rated civic and community engagement higher and spent more time volunteering than those with moderate or languishing mental health. The results from this prior research suggest that the more a student interacts with faculty, staff, and peers, and experiences a sense of belonging or connectedness in the college environment, the more likely they are to experience flourishing mental health.

Keyes's Complete Mental Health Model presents a framework for understanding how a range of mental health issues can impact an individual's functioning and engagement. Prior research using the model suggests a connection between levels of engagement with social interactions, academic environment, and the workplace. In line with Keyes's concept of a mental health continuum, this impact on engagement is tied to an individual's level of mental health (flourishing, moderate, and languishing) and not necessarily to an individual's diagnosis of a mental illness. Keyes's model, and the findings from research related to his model, support the use of the BCSSE survey in this study, as they indicate a relationship between a student's engagement in the college environment and his or her mental health. In other words, a student's engagement in the college environment, or their anticipated engagement in the college environment, may be an indicator that they are not mentally healthy and are in need of support or intervention.

Keyes's model further aligns with this study's focus on how a student's anticipated engagement indicates a risk for referral to the BIT, as BITs are focused on identifying students who may be experiencing any level of distress, regardless of the presence of a mental illness. In this study, the Complete Mental Health Model created a framework for understanding how BITs receive referrals and provide support to students. When BITs are viewed through the Complete Mental Health Model, it becomes clear that a referral to the BIT should not be dependent on a mental disorder; rather, administrators should be concerned with providing support to students who fall along a continuum of mental health regardless of diagnosis. Given what prior research has demonstrated regarding the connection between engagement and levels of mental health, using the BCSSE and referrals to the BIT as the variables for analysis in this study allowed for

identification of early indicators that a student may be experiencing distress and is in need of support.

Organization of the Dissertation

This dissertation presents an introduction, literature review, discussion of the methods for the study, results of the study, and discussion. Chapter One presented an introduction to the topic as well as the necessity to conduct research examining the relationship between students' expected engagement and a referral to the BIT. Additionally, Chapter One explored the conceptual framework and research questions which will guide the study. Chapter Two consists of a review and analysis of the relevant literature related to student mental health, traditional supports for mental health and violence or dangerousness, and behavioral intervention teams. Chapter Three focuses on the methods used in the study, including the research design, population and sample, the research site's BIT, the instrument, variables of study, and data analysis techniques. Chapter Four presents the results of the study while Chapter Five discusses the implications of the results as well as conclusions and recommendations.

Chapter Two

Review of the Relevant Literature

This literature review explores the relevant research related to the diverse ways in which students experience distress and how this distress impacts their engagement on campus, academic achievement, and personal well-being. Further, this review synthesizes the literature regarding how institutions of higher education support students in distress including campus safety efforts, mental health services, and behavioral intervention teams.

Mental Disorders and Mental Health in College Students

The number of students enrolling in college with a mental health issue is rising. The American College Counseling Association (2014) reports that 94% of counseling center directors have experienced a gain in the number of students enrolled on their campuses with a mental health diagnosis and an increase in the number of students arriving on campus already on psychiatric medication. This report from counseling center directors is supported by other research which also suggests that college students enter college on more psychotropic medication, and experience mental health problems which are more serious and complicated than in previous decades (Overholser & Fisher, 2009; Whitaker, 2007; Zivin et al., 2009).

When looking at which diagnoses specifically have risen, comparative data from the National College Health Assessment (NCHA) surveys of 2009 and 2015 show a slow increase in the prevalence of eating disorders, bipolar disorder, and schizophrenia, and a significant increase of 8.9% in the prevalence of depression and anxiety (American College Health Association, 2009, 2015). A study of 374 undergraduate students ages 18-25, conducted at a small, private

university in the Midwest, indicated that 40% of students reported mild, moderate, severe or extreme anxiety, and 33% of students indicated experiencing mild, moderate, severe or extreme depression (Beiter et al., 2015). A larger, national study of 43,000 individuals found similar results, indicating that almost half of college-aged individuals have a psychiatric disorder (Blanco et al., 2008).

According to the Mental Health Continuum and the Complete Mental Health Model, an absence of a mental disorder is not synonymous with the presence of mental health (Keyes, 2002, 2007). As such, it is important to also consider students who may not have a mental disorder diagnosis but are not completely flourishing, or completely mentally healthy. Low (2011) and Fink (2014) both used Keyes's model to conduct a study of the mental health of college-aged students. Low's (2011) survey of 428 students at a selective, small, private institution found that 30.9% of students were either moderately mentally healthy, or languishing. Similarly, Fink (2014) studied survey data of 2,765 students across seven unique institutions and found 33.5% to be moderately mentally healthy or flourishing. These results suggest that approximately one-third of college aged students do not experience positive emotions, positive psychological functioning, and/or positive social functioning.

Students without a diagnosed mental disorder may also experience poor coping skills and difficulties with mood and functioning. The NCHA surveys of 2009 and 2015 show a slow but steady increase in the number of students reporting feeling "very sad," "overwhelmed by all they had to do," "feeling so sad it was difficult to function," and experiencing "above average to tremendous amounts of stress" (American College Health Association, 2009, 2015). Beiter et al. (2015) report that 38% of students feel more than normal amounts of stress, and of the 38%, 11% experience stress that is severe or extremely severe. These students, and the ones identified as

moderately mentally healthy or languishing, may not have a mental disorder diagnosis; however, given the experiences of distress, difficulty coping, and limited positive psychological or social functioning, it is important for institutions of higher education to consider how to support these students and increase their personal and academic success. Although lacking a diagnosed mental disorder, these students are still often in need of support resources and may impact the broader community as they struggle to cope and succeed in the college environment.

While the answer to why mental health issues are increasing on college campuses is still unknown, the literature does provide evidence that the increase in the prevalence of students with mental health issues cannot solely be attributed to a trend of growing enrollment. The Center for Collegiate Mental Health (2015) found that among the counseling centers they surveyed, institutional enrollment over the last five years grew by 5.6%, while the number of students utilizing services on their campuses grew by 29.6%. Additionally, the number of appointments attended by students grew by 38.4% (The Center for Collegiate Mental Health, 2015). These increases demonstrate that the number of students seeking services for a mental health issue is five times the rate of growth of institutional enrollment. These results suggest that even when institutional enrollment remains stagnant, the need for mental health resources may continue to expand and when institutional enrollment does increase, mental health needs could grow at an exponential rate.

Impact of Mental Disorders and Less than Flourishing Mental Health

Impact on Student Engagement

Research has demonstrated that mental disorders and less than flourishing mental health impacts an individual's social and occupational functioning. Seeking to understand the breadth and scope of this impact, numerous researchers have explored the connection between mental

health, global self-concept, and student engagement with retention and student success (Astin, 1993; Braxton et al., 2007; Kuh et al., 2008; Pascarella & Terenzini, 2005). Kuh et al. (2008) conducted secondary data analysis of 6,193 students across 18 institutions using the National Survey of Student Engagement. Kuh et al. (2008) found that student engagement is positively related to first-year grades and persistence between the first and second year of college (Kuh et al., 2008). Given that engagement is a predictor of academic success and flourishing mental health, it is important to further examine the relationship between anticipated engagement and a referral for support services.

Researchers have found that students with mental disorders or less than flourishing mental health experience direct impacts on their ability to engage with the college environment. Students with mental disorders are inherently impacted by the symptomatology of the diagnoses themselves, making it difficult to engage and be successful both socially and academically. Megivern et al. (2003) found that students' difficulties were most often related to the psychiatric symptoms themselves, most commonly hallucinations, paranoia, anxiety, and low mood. These symptoms can create difficulty for students in attending class, completing tasks, and even performing daily life skills such as eating, sleeping, bathing, etc. (Markoulakis & Kirish, 2013). For example, the inherent symptoms of psychosis would make it difficult for a student who is hearing voices to participate coherently in a class discussion. Similarly, a student who is experiencing a depressed mood may find it difficult to attend class, connect with others, and find enjoyment in activities. This is evidenced in Hysenbegasi et al.'s (2005) research of undergraduate students diagnosed with depression at a public, midwestern university. Hysenbegasi et al. (2005) found that students with depression reported missing a significantly greater number of classes, exams, and assignments than their non-diagnosed peers. For students

with mental health issues, tasks related to social and academic engagement which may come easily to the general student body become barriers for students coping with a mental health issue.

Impact on Cognitive Skills

In addition to difficulty performing daily tasks, students who have less than flourishing mental health or a mental illness diagnosis may also experience cognitive difficulty. Students experiencing active symptoms of a mental health issue have a lowered ability to concentrate, memorize, retain information, maintain motivation, make decisions, and organize their thought patterns and behaviors (Markoulakis & Kirsh, 2013; Megivern et al., 2003). It is reasonable to conclude that students having such difficulty with cognition may experience an impact on their academic performance.

Impact on GPA and Retention

As previously discussed, mental health issues affect daily life skills, cognitive functioning, and the ability to perform successfully as a student. Ultimately, these difficulties are likely to impact students' GPA and their ability to remain enrolled at the college or university. Markoulakis and Kirsh (2013) found that students with a mental health diagnosis earn grades that are significantly lower than those of students without a mental health diagnosis. The evidence also demonstrates that certain diagnoses are more likely to impact GPA than others, presumably because of the inherent symptomatology of the diagnoses. For example, Eisenberg et al. (2009) found that students with a diagnosis of depression, anxiety, or an eating disorder have lower GPAs than students without these diagnoses. Specifically, a diagnosis of depression is associated with at a .49 drop in GPA (Hysenbegasi et al., 2005). These impacts on academic performance are likely to make it difficult for students to persist at the college or university and therefore make a case for administrators to ensure their students are getting support for these issues.

Persistence through college for students with a mental illness can be particularly daunting given the academic and personal challenges they may experience. Students with a mental health diagnosis experience the same barriers to college success and retention as non-diagnosed students, including financial stress, academic preparedness, and social engagement. Unfortunately, Salzer (2012) found that students with a mental health diagnosis experience these barriers to a heightened degree and withdraw at higher rates than their peers without a diagnosis (Salzer, 2012). A study of 1,910 undergraduate students from multiple institutions demonstrated that depending on the diagnosis, students with a mental health diagnosis have retention rates between 4% and 12% lower than the retention rates of the national average (Mamiseishvili & Koch, 2011). As with the impact on academic success, the impact on retention can again be attributed to the inherent negative effects of the diagnosis itself.

In addition to the academic difficulties presented by mental health issues, symptoms such as low motivation, depressed mood, heightened anxiety, and paranoia make it difficult for students with mental health difficulties to engage in the campus environment in other ways that contribute to retention. Students with a diagnosis make less use of campus facilities, have less fulfilling relationships with peers, faculty, and staff, and are less engaged both socially and academically on campus than the general population (Salzer, 2012). Salzer (2012) found that like the general student population, students with a mental health diagnosis who were involved in clubs had positive relationships with key stakeholders and felt connected to their community were more likely to remain enrolled in the college or university than those who did not have these factors. However, the symptomatology of the diagnoses often makes these engagements difficult, thus leading to a higher probability that a student with a mental health issue will leave the college or university.

Impact on Faculty and Staff

Much like student retention is a campus-wide responsibility, so is addressing and responding to the continuum of mental health of students. On any given day, a student is much more likely to encounter a residence hall coordinator, an academic advisor, or a peer than a professional counselor, and a student is much more likely to speak with the people they encounter daily than to seek professional help (The Jed Foundation, 2011). As a result, counseling center directors report a large increase in the number of trainings offered to faculty and staff regarding how to respond to and refer students experiencing psychological difficulty (American College Counseling Association, 2014). Unfortunately, many faculty and staff are not educated on mental health issues and are not comfortable dealing with students who display emotional health difficulties.

In a 2002 study of faculty, staff, and students at a large, southeastern university, 55% of faculty responded that they would rarely or never be able to tell if a student is experiencing a mental health issue, and 53% responded that they disagree or strongly disagree with the statement that they are comfortable when dealing with a student who has symptoms of a mental illness (Becker et al., 2002). Perhaps even more alarming, this study found that 13.6% of faculty would not feel safe in the classroom with someone who has a mental illness and 8.5% believe students with a mental illness are dangerous in the classroom (Becker et al., 2002). This study illuminates the idea that faculty are often not well educated regarding the topic of mental health, often leading them to feel unnecessarily fearful of and negative toward students with a diagnosis. Becker et al. (2002) found that faculty often felt as though they were unable to help, not at all familiar with the resources available, and consequently fearful of the diagnosed student in the

classroom. When knowledge regarding mental health issues and the campus resources available increased, fear and resistance toward the student decreased (Becker et al., 2002).

Staff and administration in student affairs also experience difficulty related to knowing how to respond to students experiencing mental health concerns. Like faculty, most student affairs staff do not have specific psychological training, yet are responsible for assisting students experiencing mental health distress in the campus environment. Of the most common student issues student affairs practitioners face, half of them are related to mental health difficulties (Reynolds, 2013). These difficulties range from grief and loss to eating disorders and suicidal ideation. Student affairs practitioners also identify serious mental health difficulties as the most challenging to handle, with suicidal ideation and behavior ranking as the most difficult (Reynolds, 2013). Mental health issues among college students are clearly impacting the campus as a whole, including the individual student, faculty, and staff, thus calling for a need to re-evaluate the campus mental health response.

Traditional Supports for Mental Health and Violence Prevention

College Counseling and Mental Health Services

Counseling centers have served multiple purposes and functions since their inception in the United States. College campuses began recognizing the need to offer some form of counseling in the early 1900s (Barreira & Snider, 2010). In its early stages, the college counseling center staff tended to fill the role of guidance counselors or advisors, with services focused on addressing the educational, vocational, and financial needs of students (Barreira & Snider, 2010). In the 1940s, when veterans returned from World War II with various mental health issues and began enrolling at institutions of higher education, these services began to shift toward a more clinical model. Under the guidance of President Truman's Commission on Higher

Education directive, colleges and universities began offering services that supported the emotional and social growth of students, in addition to their academic growth, as veterans entered the college population with new mental health needs (Barreira & Snider, 2010).

It was not until the 1950s, however, that counselors on college campuses truly evolved from the traditional role of advisor to that of a clinical provider. This shift was a result of several events occurring in the broader society. In 1952, the first publication of the *Diagnostic and Statistical Manual*, a guide to diagnosing mental health issues, was released and subsequently, in 1954, the American Psychological Association changed the professional classification of the counseling division from Counseling and Guidance to Counseling Psychology (Barreira & Snider, 2010). These changes increased the clinical legitimacy of counseling centers by offering tools for diagnosing mental disorders and providing a professional organization for continued standards and research.

A more recent trend in supporting students not only experiencing a mental disorder, but who are also languishing and moderately mentally healthy, is that of higher education case management. Higher education case management focuses on helping students overcome obstacles and barriers they experience in their personal and academic lives (Van Brunt et al., 2012). Data collected from a national survey of campus behavioral intervention teams demonstrated that case management is a growing field and that 39% of teams now have a dedicated case manager (Schiemann & Van Brunt, 2018). This is most commonly a non-clinical position, housed within student affairs (Schiemann & Van Brunt, 2018). Such a position structure allows the case manager to serve all students, have ready access to campus resources, and communicate with other support systems at the institution more freely (Van Brunt, et al., 2012).

Case managers support students in all forms of distress including academic, emotional, medical, personal, or psychological (Van Brunt et al., 2018). Even when they are not designated as official case managers, this type of support typically comes from student affairs administrators. Reynolds (2013) surveyed 460 entry and mid-level student affairs professionals across the United States, to assess the most common and the most challenging student concerns they address. Reynolds (2013) found that the most common student concerns for which student affairs professionals provide support include: stress, time management, anxiety, transitioning to college, academic difficulties, financial difficulties, and identity development. Although not the most common concerns, concerns related to mental disorders (suicidal ideation, anxiety, depression, substance use, eating disorders, and self-harm) were identified as the most challenging faced by entry and mid-level student affairs staff (Reynolds, 2013). The case management and student affairs approach of providing support to students at all levels of distress aligns well with Keyes's Complete Mental Health Model.

Campus Security

Campus safety and security personnel and policies are designed to safeguard the well-being of students, faculty, and staff at institutions of higher education. However, some institutions utilize sworn law enforcement and other non-sworn campus safety officers, creating variation in these officials' job duties (Sokolow et al., 2014). Following the tragedies at Virginia Tech and Northern Illinois University, a shift occurred in campus safety response (Schafer et al., 2018). The new approach calls for emergency alert systems, public campus safety information, and training for campus police and law enforcement to better prepare for violent incidents, increased foot patrol units on campus, and better relations between campus safety officials and the broader campus community (Schafer et al., 2018). Additionally, the Virginia Tech Panel

called for higher education administrators to implement a centralized reporting source to receive referrals about concering or unusual behavior separate from reporting crime or violations to law enforcement or campus safety (The Virginia Tech Review Panel, 2007).

Colleges and universities are challenged to offer comprehensive services to a growing population of students with increased focus on risk mitigation, and neither the scope nor the structure of traditional services is adequate (Barreira & Snider, 2010). This gap between the traditional services offered and the new level of need has led to the establishment of behavioral intervention teams on college campuses. Behavioral intervention teams, offered in conjunction with college counseling centers and campus security efforts, represent a campus-wide investment in the continuum of mental health needs of students and are now considered the "accepted gold standard of practice in higher education" (Center for Collegiate Mental Health, 2015, p. 3).

Strengths and Limitations of Counseling and Campus Security

Traditional supports such as counseling and campus safety are generally viewed as crucial supports given their effectiveness. However, recent best practices suggest these should not be the only methods by which we support students experiencing distress, posing a risk, or making a direct threat given some of the limiations related to these services offered in isolation (The Jed Foundation, 2011; The National Threat Assesment Center, 2018; Van Brunt et al., 2018). Several studies have found that counseling is effective in reducing psychological distress and improving personal well-being (Choi & Buskey, 2010; DeStefano et al., 2001; Lockard et al., 2012; Van Norman, 2017). DeStefano et al. (2001) found that students entering counseling experienced more difficulty than their peers with not only psychological symptoms, but also with academic, interpersonal, and social issues as well. Outcome measures post-counseling demonstrated that counseling was effective in helping students in their adjustment to college

regardless of whether the adjustment difficulty was psychological in nature (DeStefano et al., 2001). Choi and Buskey (2010) found similar results in their study of 78 students at a midsize university, as personal functioning and academic functioning both improved after counseling services were rendered.

In addition to the impact on psychological distress and emotional well-being, counseling is also helpful in improving students' academic performance and retention. Lockard et al. (2012) and Choi and Buskey (2010) focused their research more specifically on the effects of counseling on academic distress and performance. In a comparative study between a clinical and non-clinical sample of students at a large, mid-Atlantic university, repeated-measure ANOVA tests indicated that academic distress decreased significantly after counseling (Lockard et al., 2012). Choi and Buskey (2010) also found that counseling had a positive impact on academics; specifically, attending three to four hours of counseling in the fall semester was statistically significant in predicting a GPA of at least one grade point higher.

The research suggests that counseling is effective in supporting students experiencing both personal and academic difficulties; however, the limitations of counseling lie in the premise that students must self-seek the services at a time when they are already in distress and experiencing difficulty. Examined within the Health Belief Model, this process requires that students must first recognize that they need help and then also know how and where to receive said help (Glanz et al., 1997). Given the high prevalence of students with mental health issues on college campuses, and the impact these mental health issues have on a student's functioning and success, one might expect to see a high rate of students engaging in support services and seeking help. Unfortunately, the literature does not support this assumption.

Understanding help-seeking behavior is therefore important in tackling this underutilization of services and the mental health issues for college students. The Health Belief Model presents a framework for understanding the help-seeking behavior of college students and helps shed light on the limitations related to relying only on mental health or medical services to address students in distress (Glanz et al., 1997). Social psychologists first developed the Health Belief Model in the 1950s to focus on the attitudes and beliefs of individuals as they make health-related decisions (Glanz et al., 1997). Since its initial development, researchers have applied this framework to the help-seeking behavior of college students in several studies, demonstrating that students engage in this decision-making process in the same way as non-college-attending adults (Nobling & Maykrantz, 2017; O'Connor et al., 2014). The Health Belief Model posits that individuals first consider the seriousness of their health condition and then weigh the perceived benefits and costs or barriers to receiving treatment for the condition. Once the individual has weighed the benefits and costs, various "cues to action" (informational campaigns, awareness posters, and other strategies to activate readiness and disseminate information) in conjunction with an individual's self-efficacy move an individual to either take action toward treatment, or remain untreated (Glanz et al., 1997).

The Health Belief Model, when applied to collegiate mental health treatment, sheds light on how a student may move through the decision-making process related to seeking services during their time at the institution. First, students will consider how severe their mental health issue is and how it is impacting them (Glanz et al., 1997). They will likely consider the costs and benefits related to financial barriers to treatment, amount of time invested in treatment, and how it will help them overcome their mental health issues, etc. If the benefits appear to outweigh the

costs, the student must then have enough "cues to action" (information about services on campus) and self-efficacy to follow through with engaging in treatment (Glanz et al., 1997).

Despite the rise in the prevalence of mental health issues and the impact of mental health issues on student functioning, the literature suggests that there is still a significant population of students not seeking treatment. For example, a study using the national Healthy Minds Survey revealed that among students with a mental health diagnosis, only 35.6% report receiving any kind of mental health care either on or off campus (Eisenberg et al., 2011). This is consistent with other research related to college student utilization of services; Blanco et al. (2008) also found that only 34% of students with a mood disorder sought mental health treatment and that there were consistently low utilization rates among all psychiatric disorders. Similarly, the NCHA (2009) survey results indicated that only 24% of college students diagnosed with depression sought treatment in the last year. While some students reported seeking help from a peer, a family member, etc., what may be most concerning for college campuses is the 15.8% of students who reported that they received support from neither a professional nor a non-professional (Eisenberg et al., 2011). These students are left struggling in the residence halls, in the classroom, and within the college community without any treatment or support.

The Health Belief Model, as well as literature related to barriers to care, sheds light on why students may not be seeking services. The Health Belief Model explains that the first step toward seeking health treatment is analyzing the severity and pervasiveness of the health issue (Glanz et al., 1997). It can be assumed, given the data related to negative impact on academic performance, that students would perceive their mental health issue to be persistent and pervasive, therefore, causing them to move on to the subsequent phases of the model (Hysenbegasi et al., 2005; Markoulakis & Kirsh, 2013; Megivern et al., 2003). In these

subsequent phases, the students will weigh the benefits and costs of treatment, as well as use knowledge available to them about resources to decide if they want to seek treatment. When viewed in the framework of the Health Belief Model, it is reasonable to conclude that students believe there to be more costs than benefits, and/or they are not provided with enough cues to action.

Colleges and universities often offer free, or at least low-cost, mental health services to students, therefore leading administrators to assume that treatment is easily accessible. However, data from the Healthy Minds Survey suggest that even when financial stressors are removed, there are still barriers to college students when seeking care, as 33% cited financial reasons as the reason they did not seek treatment (Eisenbgerg et al., 2011). Given the amount of free resources on campus, these results suggest there is a gap between students' perception and the reality of the on-campus services, causing them to perceive more cost than benefit to seeking treatment. This may also suggest a lack of "cues to action," meaning there is not enough information available to the students about the free resources.

This lack of information may extend beyond understanding the financial cost of treatment, as students seem to have a negative perception of mental health issues and services, and a misunderstanding regarding how treatment can be helpful. Yorgasen et al. (2008) surveyed 750 students to assess their need for treatment and their engagement in treatment. Of those who needed treatment but did not seek it, the majority reported that they did not have enough time, were embarrassed to use services, or they did not think the services would help (Yorgasen et al., 2008). The results of this study indicate that students lack knowledge related to the benefit of getting treatment and how little time it takes to have a counseling appointment. Additionally, if there were more knowledge disseminated regarding the high number of students who utilize, or

could benefit from, mental health services, fewer students may be embarrassed to utilize services.

A significant portion of the research related to help-seeking behavior has focused on the idea that students may be embarrassed to utilize services due to the stigma associated with mental health issues. Eisenberg et al. (2009) conducted a study of stigma and help-seeking behavior at 13 different college campuses. The results of this study indicated that stigma was significantly correlated to lower help-seeking behavior (Eisenberg et al., 2009). Further, students reported a low likelihood of reaching out to faculty and staff about their mental health issue because of the perceived negative stigma (Eisenberg et al., 2009). As explained in the Health Belief Model, this perception of a negative stigma creates a barrier to moving toward engaging in health-related support when the student weighs the cost of such a decision (Glanz et al., 1997).

Unfortunately, this perceived stigma may be an accurate perception of the attitudes of faculty toward students with mental health issues. Becker et al. (2002) report that 13.6% of faculty would not feel safe in the classroom with someone who has a mental health diagnosis and 8.5% believe students with a mental health issue are dangerous in the classroom. Additionally, 55% of faculty responded that they would rarely or never be able to tell if a student is experiencing a mental health issue, and 53% responded that they disagree or strongly disagree with the statement that they are comfortable when dealing with a student who has symptoms of a mental illness (Becker et al., 2002). These results again indicate a barrier for students as they weigh the cost of disclosing their mental health issue in a climate which contains negative stigma as well as a lack of "cues to action" from the faculty member who is not well versed in disseminating information to students needing mental health support.

Students also experience barriers in seeking help from, or reporting concerning behavior to campus safety and security officials. Schafer et al. (2018) found that students varied greatly in their perceptions of campus safety efforts. There was not a consensus among those surveyed regarding whether they approved of the campus safety efforts or found them to be effective (Schafer et al., 2018). It is reasonable to conclude that such variety in support can create a sense of distrust or at least reservations about campus safety and security efforts on campus.

To better understand students' willingness to report alarming or concerning behavior to campus authorities, Hollister et al. (2014) conducted a survey of 450 undergraduate students at a large midwestern university. This study required each participant to read a series of vignettes, each describing some form of concerning behavior, or leakage as defined by Meloy and O'Toole (2011). The researchers then assessed whether the participants observed concerning behavior, and if they were willing to report any concerning behavior they did observe. Hollister et al. (2014) found that only 35% of participants indicated observing concerning behavior and an alarming 65% of individuals described an unwillingness to report concerning and/or threatening behavior to police.

As noted earlier, colleges and universities are challenged to offer comprehensive services to a growing population of students with increased focus on risk mitigation, and neither the scope nor the structure of traditional services is adequate (Barreira & Snider, 2010). BITs have evolved as a mechanism for bridging the gap between these traditional services and more proactively connecting students to support resources. When offered in conjunction with each other, BITs, counseling services and campus safety efforts represent a holistic, campus wide investment in addressing the continuum of mental health needs.

Behavioral Intervention Teams

Behavioral intervention teams (BITs) "are small groups of school officials who meet regularly to collect and review concerning information about at-risk community members and develop intervention plans to assist them" (Van Brunt et al, 2018, p.30). BITs receive referrals from the community, review them to determine the level of risk or concern, and then develop action plans to address this risk (Sokolow et al., 2014). Behavioral Intervention Teams engage in caring, preventive, and early intervention with students whose behavior is disruptive and concerning. This work balances providing support to individual students with maintaining the safety of the entire community.

Sokolow et al. (2014) argued that a well-functioning BIT receives referrals about individuals who are struggling or engaging in concerning behavior before any threat is present. This early intervention is important to the work of BITs for two reasons. First, research demonstrates that 80% of incidents of targeted violence were preceded by concerning behaviors such as bullying, isolation, concerning statements, etc., that went unreported or were not taken seriously when they were reported (National Threat Assessment Center, 2018; O'Toole, 2000). Second, even those students whose concerning behavior would never escalate to the point of harm to self or others may need support to be successful either academically or personally (Cornell, 2010; Eells & Rockland-Miller, 2010; Sokolow et al., 2014).

BITs engaging in a proactive, early intervention approach receive referrals for a wide range of issues including disruptive behaviors, mental health risks, drug/substance abuse, disability-related issues, life adjustment, emotional health issues, etc. (Cornell, 2010; Eells & Rockland-Miller, 2010; Sokolow et al, 2014). This approach allows BITs to provide support to any student in distress while also heading off any escalation of behavior before it becomes a

threat. This approach has the added benefit of making teams aware of students early on in their problematic behavior and, if the student does escalate to a higher level of risk, the team is already aware of the student and prepared to intervene (Sokolow et al., 2014).

This proactive, early intervention approach appears to be accepted by most schools operating a BIT. The Annual NaBITA survey found that 80% of BITs most commonly receive referrals that are classified as either mild or moderate risk level, as opposed to elevated, severe, or extreme (Schiemann & Van Brunt, 2018). Concerns related to suicide, depression, or psychological issues are the most common reasons for a referral to the BIT; closely following are referrals for academic, financial, and social stress (Schiemann & Van Brunt, 2018). This approach to seeking referrals for a wide range of issues aligns with Keyes's Complete Mental Health Model. BITs do not only seek referrals for students with a mental disorder, or for students who pose a direct threat. BITs support students along a continuum of behaviors, looking to provide support and reduce barriers to success.

Once a BIT receieves a referral for a student it engages in three key functions: (a) gather additional data, (b) analyze or assess the risk, and (c) develop interventions to reduce the risk (National Threat Assessment Center, 2018; Sokolow et al., 2014). The initial referral indicating a student is struggling is often only the first piece of the puzzle; BITs must engage in active information-gatheringfrom the student's faculty, academic record, resident assistant, student affairs staff, etc. to assemble the rest of the puzzle pieces (Sokolow et al., 2014). This holistic understanding allows teams to accurately assess risk using an objective risk rubric, and to then deploy interventions specifically tailored to reduce the risk (Sokolow et al., 2014). The interventions often include a meeting with the student, referral to appropriate resources (counseling, academic advising, psychiatry, career services, disabilty support services, etc.),

psychological or violence risk assessment, parental notification, etc. (Eells & Rockland-Miller, 2010; Sokolow et al., 2014). The interventions of a BIT are designed to respond to the risk factors for the student and build a connection to support. In this way, the BIT approach also aligns with the Health Belief Model, as it seeks to assist students in understanding their needs or their health condition, provide cues to action, and increase a student's individual self-efficacy so that they engage in treatment or support.

Summary

This chapter presented a review of the literature related to student engagement, mental health, and campus support options including counseling, campus safety, case management, and behavioral intervention teams. Prior research demonstrates a connection between engagement and mental health and a gap in the research related to behavioral intervention teams as truly preventative approaches. Chapter Three presents the methods used to analyze the relationship between students' expected engagement and a referral to the BIT in this study.

Chapter Three

Methods

Individuals' engagement in the workplace and the academic environment is related to their level of mental health (Fink, 2014; Keyes, 2006; Keyes et al., 2012; Low, 2011; Peter et al., 2011). Given the connections between engagement and mental health, this study aimed to explore the relationship between anticipated engagement with the college environment and the likelihood of receiving a referral to the BIT, as any significant relationships found can enhance the preventative and proactive nature of the BIT. The following research question therefore guided this study:

1. To what extent are students' expectations for collaborative learning, interaction with individuals from diverse backgrounds, academic perseverance and difficulty, and a supportive campus environment related to their likelihood to be referred to the BIT?

Research Design

The research question guided the examination of the relationship between students' self-reported expected engagement and the likelihood of a referral to the BIT. A quantitative approach was the most appropriate research design, as this approach seeks to test "objective theories by examining the relationship among variables" (Creswell, 2014, p. 4). While there are generally four quantitative research methods, this study used a correlational design as its quantitative approach. Correlational research allows the researcher to use the "correlational statistic to describe and measure the degree or association between two or more variables or sets

of scores" (Creswell, 2014, p. 12). For this study, the correlational statistic described the degree to which specific BCSSE items were associated with a referral to the BIT.

Although this study used data from a survey instrument, it was not primarily survey research. The goal of survey research is to describe "trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell, 2014, p. 13). The research question for this study focused on describing the relationship between specific items on the BCSSE and referrals to the BIT and not on overall trends or attitudes of a population. In other words, the relationship between the variables was the focus of the study.

Population and Sample

Students enrolled at a large public research institution in the Southeast served as the population for this study. At the time data were collected, the students included in the study were enrolled at the main campus of an institution comprised of three campuses, each with its own classification according to the Carnegie Classification of Institutions of Higher Education (Office of the USF System Provost and Executive Vice President, 2017). The campus that provided the population and sample for this study was classified as a 4-year, doctoral granting, public university (The Carnegie Classification of Institutions, 2017). In 2017, this campus served 30,984 undergraduate students, 10,086 graduate students, 700 medical students, and 1,772 non-degree-seeking students (Office of the USF System Provost and Executive Vice President, 2017). This campus is home to a diverse student body representing over 145 different countries. Over 20% of the student population is Hispanic, 11% African American, and 7.5% Asian. This campus is also a primarily commuter campus, with only 22% of full-time undergraduate students living on campus (Ana Hernandez, personal communication, February 17, 2020).

The research question for this study focused on examining potential risk, or predictive, factors; therefore, secondary data were useful in this study ae s it allowed the researcher to draw large sample sizes and increase the statistical power (Elliott, 2016). The quantitative data sample for this study originated from BCSSE and the electronic database for the institution's behavioral intervention team. The institution began using BCSSE in 2014 and the institution's BIT began collecting electronic referrals in Fall 2015. Therefore, the sample for this study was first time in college students who enrolled between 2015 and 2019. During the timeframe of the study, the institution did not use the same administration format for administering BCSSE to transfer students; therefore, the study did not include transfer students.

BIT Process and Referrals

The institution's BIT was first established in 2010 and is an interdisciplinary committee which receives referrals for students experiencing personal, emotional, or behavioral distress, or whose behavior poses a safety concern to themselves or the university community (Student Outreach and Support, 2019). During the timeframe for this study, the BIT's core membership included the following individuals: Director of Counseling Services, Director of Health Services, Vice President for Student Affairs, Police Lieutenant, Director of Student Rights and Responsibilities, Director of Academic Advocacy, and the Director for Residential Education, and the team was chaired by the Director of Student Outreach and Support. Student Outreach and Support (SOS) served as the non-clinical case management component of the BIT. All referrals made to the BIT were initially screened by SOS staff and triaged for response. As the Chair of the BIT, the SOS Director then also facilitated the BIT discussion and drove the case management interventions through SOS support. SOS administrators assessed risk and deployed interventions to address the risk for all referrals received through the BIT online referral form.

In line with best practices, this institution's BIT engaged in the three key phases of a BIT: gather data, assess referrals, and deploy interventions. Relevant to this study was the data gathering phase, or how students are referred to the BIT. To gather effective data from the community regarding students of concern, the BIT chair, along with Student Outreach and Support staff, regularly conducted training across the campus community on how to identify, support, and refer students of concern. This training included a brief history of BITs and an overview of the institution's BIT, as well as in-depth education on the indicators of distress and strategies for supporting and referring students experiencing distress (Schiemann & Morgan, 2017). According to Schiemann and Morgan (2017), the indicators of distress in the training included, but were not limited to, the following: change in behavior or appearance; academic decline; difficulty regulating emotions; a difficult life event; mention of emotional or personal difficulty; expression of hopelessness, worthlessness, or themes of wanting to die; direct mention of a mental health, substance abuse, or disordered eating concern; direct threat of harm to self or others; or behavior that appears disconnected from reality. Additionally, the BIT website instructed concerned individuals to submit referrals for students exhibiting a wide range of academic, emotional, and/or physical indicators, including even if they just have a "gut feeling that something is wrong" (Student Outreach and Support, 2016, para.1). BIT materials and training instructed faculty, staff, and students that any time they were concerned about a student and believed the student needed additional support, they should submit a referral. In this regard, the BIT and Student Outreach and Support operate from an early intervention and proactive model, soliciting referrals for a wide range of student issues.

Following a referral, the Student Outreach and Support staff, along with the BIT, brought together any individual pieces of information regarding a student (information from the referral,

academic performance and history, information from the departmental representatives on the BIT, etc.) to gain a holistic view of what the student might be experiencing. This collective, holistic picture allowed the BIT administrators and case managers to accurately and objectively assess risk using an objective risk rubric. Following assessment of risk, interventions appropriate to the level of risk were deployed to support the student and mitigate the concerns.

BCSSE Instrument

The BCSSE is a survey created by the Center for Postsecondary Research at Indiana University that measures entering students' "high school academic and co-curricular experiences as well as their expectations for participating in educationally purposeful activities during the first year of college" (Paulsen & Cole, 2019, p.1). The BCSSE was first launched in 2007 and was updated in 2013. This update allowed the BCSSE to better align the survey questions with the updated version of the National Survey of Student Engagement and continued BCSSE's focus on gathering information related to students' high school experiences and their expectations for engagement during the first year in college (Paulsen & Cole, 2019). The 2013 BCSSE revision also included new survey items and the development of the nine BCSSE scales (Paulsen and Cole, 2019). The BCSSE scales serve to group similar survey items into thematic groupings to provide a measure for the theme. The nine BCSSE scales include: High School Quantitative Reasoning, High School Learning Strategies, Expected Collaborative Learning, Expected Student-Faculty Interaction, Expected Discussions with Diverse Others, Expected Academic Difficulty, Expected Academic Perseverance, Perceived Academic Perseverance, Perceived Academic Preparation, and Importance of Campus Environment (BCSSE, 2019).Within each BCSSE scale are specific survey items, ranging from 3 to 7 items per scale, totaling 42 items for the survey (See the Appendix) (Paulsen and Cole, 2019).

The institution included in the study began administering the BCSSE to incoming students in 2014 (Center for Postsecondary Research, 2017). Using the paper version of the instrument, the survey was administered to all first time in college students during orientation (transfer students received a different administration of BCSSE during this study's timeframe), prior to the start of classes (Dr. Thomas Miller, personal communication, October 24, 2019). The survey was administered in small groups, with each group supervised by a student staff member known as an orientation team leader (Dr. Thomas Miller, personal communication, October 24, 2019). As students completed the survey, the orientation team leader collected the surveys and made a good-faith effort to ensure that the survey was completed fully (Dr. Thomas Miller, personal communication, October 24, 2019). Dr. Thomas Miller reported that this process typically provided a 98-99% response rate (personal communication, October 24, 2019). The collected surveys were sent to the Center for Postsecondary Research at Indiana University, where they were scored, and the results shared back with the university via a secure electronic site (Dr. Thomas Miller, personal communication, October 24, 2019). The university used the BCSSE results to "inform support personnel about the students they serve, and to identify students for early intervention" (Center for Postsecondary Research, 2017, p. 1). The purpose of this study therefore supports the University's overall use of BCSSE data.

Validity and Reliability

The BCSSE is one of the most widely used surveys measuring incoming students' prior and expected future engagement in the college environment. It has been used by 506 institutions and completed by nearly 900,000 students since it first launched in 2007 (Paulsen & Cole, 2019). The BCSSE was developed and revised by leading academic professionals and researchers, relying on "student cognitive interviews, literature reviews, expert consultations, pilot testing,

statistical analysis of pilot data, and interviews with administrators responsible for use of the BCSSE data" (Paulsen & Cole, 2019, p. 1). The 2013 update to BCSSE improved clarity of the survey language, increased applicability of the items and overall instrument, and refined existing measures, including the development of the BCSSE scales, all with the goal of maintaining strong psychometric properties (Paulsen & Cole, 2019).

Paulsen and Cole (2019) tested the reliability of the BCSSE scales using Cronbach's alpha. Cronbach's alpha measures internal consistency, or reliability, of a test or scale and is expressed with a number ranging between 0 and 1 (Tavakol & Dennick, 2011). The Cronbach alpha value demonstrates an instrument's reliability, with scores closer to 1 demonstrating stronger internal consistency, or reliability (Tavokal & Dennick, 2011). Table 2 provides the individual Cronbach's alpha score for each of the BCSSE scales. As seen in Table 2, all but two of the scales have a Cronbach's alpha value above the criteria value of .70 (Paulsen & Cole, 2019). The Cronbach's alpha values for the BCSSE scales range from .66 to .91, suggesting a moderate to high degree of internal consistency or reliability (Paulsen & Cole, 2019).

Tavakol and Dennick (2011) cautioned that Cronbach's alpha alone should not be interpreted as an index for internal consistency and that a factor analysis should be conducted to further describe the reliability within an instrument. Factor analysis is useful in explaining correlations among outcomes as the result of other underlying factors (Tavakol & Dennick, 2011). When conducting a factor analysis of the BCSSE scales, Paulsen and Cole (2019) found that all the models had marginal or good fit, depending on the measurement for fit. Given the goodness of fit and the Cronbach's alpha values, Paulsen and Cole (2019) suggested that "researchers should feel confident treating the scale scores as latent constructs" (p. 10).

Table 2

BCSSE Scales Cronbach's Alpha Values

BCSSE scales	Cronbach's α
High School Quantitative Reasoning	.78
High School Learning Strategies	.68
Expected Collaborative Learning	.79
Expected Student-Faculty Interaction	.85
Expected Discussions with Diverse Others	.91
Expected Academic Difficulty	.66
Expected Academic Perseverance	.81
Perceived Academic Preparation	.86
Importance of Campus Environment	.85

Data Analysis

Regression analysis allows researchers to examine the relationship between two or more variables, examining the influence of one or more predictor variables on the criterion variable (Coladarci & Cobb, 2014). A form of correlational research, regression analysis allows the researcher to know more about the correlation between the variables than the correlation coefficient alone (Coladarci & Cobb, 2014). Regression analysis estimates future behavior based on knowledge of current factors. In this study, the researcher aimed to predict the future occurrence of a referral to the BIT from BCSSE expected engagement items. The BCSSE scales described above therefore served as the predictor, or independent, variables and a BIT referral served as the criterion, or dependent variable. Given that the dependent variable in this study was dichotomous, logistic regression was the most appropriate choice for the regression analysis (Gall et al., 2007).

Variables

In this study, the researcher sought to predict the future behavior of a referral to the BIT from BCSSE expected engagement items. The BCSSE items and scales therefore served as the predictor, or independent, variables. Given that the BCSSE scales have demonstrated strong psychometric properties, this study used five of the nine BCSSE scales as developed by the Center for Postsecondary Research. Specifically, the BCSSE scales used as the predictor variables in this study included Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment. Table 3 shows specific BCSSE scales and their sub-items assigned as the factors used to assess each specific component of the research question.

Table 3

Relationship Between Research Questions and BCSSE Items

Expected collaborative learning with students	
BCSSE Scale: Expected Engagement in Collaborative Learning	Items included in the scale: 15 a-d
Expected interaction with individuals from diverse backgrounds	
BCSSE Scale: Expected Discussions with Diverse Others	Items included in the scale: 16 a-d
Expected academic perseverance	
BCSSE Scale: Expected Academic Perseverance	BCSSE Items: 17 a-f
Expected difficulty with academic environment	
BCSSE Scale: Expected Academic Difficulty	BCSSE Items: 18 a, b, d, and f
Views on the importance of campus environment	
BCSSE Scale: Importance of Campus Environment	BCSSE Items: 21 a-g

The BCSSE scale Expected Engagement in Collaborative Learning analyzed the extent to which a student's expected collaborative learning with other students is related to a referral to the BIT. This scale includes items that measure how often the student plans to work with other students on course work outside of the classroom. The BCSSE Scale Expected Discussions with Diverse Others was used to analyze the extent to which expected interaction with individuals from diverse backgrounds was related to a referral to the BIT. This scale includes items that measure how often a student plans to have discussions with people with identities that differ from theirs. The BCSSE scale for Expected Academic Perseverance was used to assess how a student expects they will persevere academically. This scale includes items that measure a student's willingness to study instead of doing other things, seek out information, ask for help, participate in class, finish something once they've encountered challenges, and stay positive even when they've done poorly on an assignment or test. The BCSSE scale Expected Academic Difficulty was used to measure how a student's expected difficulty with their academic work is related to a referral to the BIT. Items on this scale included items that measure how difficult the student expects it will be learning new course material, managing time, getting help with schoolwork, and interacting with faculty. Finally, the BCSSE scale Importance of Campus Environment was used to understand how a student's expectations about campus support are related to whether they are referred to the BIT, as this scale includes items that measure how important it is to students that the institution provide specific environmental factors.

The outcome, or dependent variable for this study was a referral to the BIT. This variable was dichotomous (yes or no) and was measured by whether a student is referred to the institution's BIT at any point during the time frame for this study.

Additionally, this study identified gender and race as covariates. Covariates can be defined as "a possible predictive or explanatory variable of the dependent variable" (Salkind, 2010, p. 284). Gender has the potential to influence whether a student is referred to the BIT, as male students are less likely than female students to identify depression, anxiety, and severe stress, and are also less likely to seek help for these issues (Kim et al., 2015; Klineberg et al., 2011; Rickwood et al., 2015). Due to the differences in how male and female students may demonstrate that they are experiencing symptoms of a mental health issue (McIntyre et al., 2014), it was anticipated that gender may influence whether a student was referred to the BIT.

Similarly, people of color are less likely to seek help for mental health-related issues, resulting in significant differences in the utilization rates of mental health treatment for people of color as compared to White individuals (Smith & Trimble, 2016). While Black and Latinx individuals are equally at risk for developing a mental illness, they suffer significantly longer from the mental illness once it is present due to lack of adequate care or resistance to seeking care (Alegría et al., 2002). Race therefore also served a covariate in this study.

Data Collection

This study used secondary data to conduct a logistic regression analysis. The outcome variable data of a referral to the BIT were provided by the institution's BIT. All referrals to the institution's BIT were made electronically via Symplicity, an online platform for collecting and storing case information. Symplicity has a reporting feature that allows users to generate data, including a list of referrals submitted to the system. This list is tied to University ID numbers, as is BCSSE data, allowing researchers to match the datasets. BCSSE data are collected in a routine process for all incoming first time in college students as described above and stored by the Office of Decision Support at the institution of study. To protect the anonymity of the data, the Office

of Decision Support matched the BIT referrals and BCSSE responses data and produced the complete dataset to this researcher de-identified.

Summary

Building on the overview of the study presented in Chapter One and the review of the existing literature in Chapter Two, this chapter presented the methods that were used to conduct the study. The discussion focused on research design and methods, sample and population, instrument, data collection and analysis, and variables used in this study. As explained above, this correlational study used logistic regression to explore the relationship between expected student engagement as indicated by specific BCSSE scales and a referral to the BIT at a large public research university in the Southeast. Chapter Four presents the results of this logistic regression analysis.

Chapter Four

Results

The purpose of this study was to determine if there were predictive relationships between students' expected engagement and whether they were referred to the BIT during their enrollment. The study sought to answer the following research question: To what extent are students' expectations for collaborative learning, interaction with individuals from diverse backgrounds, academic perseverance and difficulty, and supportive campus environment related to their likelihood to be referred to the BIT?

This chapter includes a presentation of the descriptive statistics for the sample and the findings for the research question.

Sample Description and Descriptive Statistics

The original dataset contained information for 22,117 students and was adjusted, or filtered, to account for missing data, inconsistent survey questions across the years of survey implementation, or erroneous responses, using the following parameters, with the number of students removed from the dataset at any step indicated at the end of the step in (-N) format:

1. Data values of 1 in the column for a BIT Referral were treated as "Yes" values for a BIT referral; no other values existed in this column and thus NA values were assigned as 0 to indicate "No." These Yes/No values were treated as the outcome variable and dichotomous responses for the logistic regression.
2. The scores for every student on each of the five BCSSE scales to be used in the analysis were included as the predictor variables in the logistic regression.

Students with no responses for at least three out of the five BCSSE scales were omitted from analyses. (-496)

3. Students without data for both gender and race identity responses were omitted from analyses. (-285)
4. Students in 2019 who only identified as Middle Eastern/North African were grouped with students in 2015-2018 who identified as *Another race or identity*, as the category Middle Eastern/North African was not a response option on the 2015-2018 surveys.
5. Students in 2019 who only identified as Middle Eastern/North African and *Another race or identity* were grouped with students in 2015-2018 who identified as *Another race or identity*.
6. Students in 2019 who identified as Middle Eastern/North African and another specific race (e.g., Asian), were grouped with 2015-2018 students who identified with multiple races (e.g., students who checked Asian and *Another race or identity*).
7. Some students (n=17) simultaneously selected racial identities as *I prefer not to respond* and a specific race (e.g., White). Therefore, an additional category for these students was created called Ambiguous.

The final dataset used in the study included 21,336 students. Out of the 21,336 students included in the study, 12,308 (57.7%) identified their gender as *woman*, 8,849 (41.5%) identified as *man*, 92 (.43%) identified as *another gender identity*, and 87 (.41%) indicated *I prefer not to respond*. There were 10,743 (50%) students who identified as White, 3,307 (15.5%) as multiple races, 2,744 (12.9%) as Hispanic or Latino, 2,096 (9.8%) as Asian, 1,714 (8%) as Black or

African American, and 442 (2.1%) as another race or ethnicity. An additional 223 (1%) students indicated they preferred not to respond, 25 (.11%) identified as American Indian/Alaska Native, 25 (.11%) identified as Native Hawaiian/Other Pacific Islander, and 17 (< .1) were classified as ambiguous. Table 4 presents the descriptive statistics by gender and race for the sample.

Table 4

Descriptive Statistics by Gender and Race

Demographic	Category	Frequency	%
Gender			
	Woman	12,308	57.7
	Man	8,849	41.5
	Another gender identity	92	.43
	I prefer not to respond	87	.41
Race			
	White	10,743	50
	Multiple	3,308	15.5
	Hispanic or Latino	2,744	12.9
	Asian	2,096	9.8
	Black or African American	1,714	8
	Another race or identity	442	2.1
	Prefer not to respond	223	1
	American Indian or Alaska Native	25	.11
	Native Hawaiian or Other Pacific Islander	25	.11
	Ambiguous	17	<.1

Frequency Analysis for BIT Referrals

During the timeframe of the study, 2015-2019, 1,593 students (representing 7.45% of the final sample) were referred to the BIT. Larger percentages of students who reported *another gender identity* and *I prefer not to respond* were referred to the BIT than students who reported *woman* and *man* as their gender. Students who reported their race as American Indian/Alaska Native, *prefer not to respond*, and Native Hawaiian/Other Pacific Islander had larger percentages of students referred than other races. Table 5 presents the frequency analysis and descriptive statistics for BIT referrals.

Mean Scores on BCSSE Scales for Referred and Non-Referred Students

The BCSSE scales used as predictor variables in the study included Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment. Mean scores on the BCSSE scales were similar for referred and non-referred students. On the BCSSE scale Expected Engagement in Collaborative Learning, non-referred students had a mean score of 38.26 and referred students, 38.75. On the Expected Discussions with Diverse Other scale, non-referred students had a mean score of 47.93 compared to 48.19 for referred students. The mean score on the Expected Academic Perseverance scale for referred students was 43.42 and for non-referred students, 43.04. On the Expected Academic Difficulty scale, non-referred students had a mean score of 28.85 and referred students, 29.05. Finally, on the Importance of Campus Environment scale, non-referred students had a mean score of 47.32 and referred students, 47.73. Figures 1-5 use boxplot graphs to present the mean scores for each BCSSE scale for non-referred and referred students.

Table 5

Frequency Analysis for BIT Referrals

Demographic	Category	N Total	Frequency Non-Referral	Frequency Referral	Referral %
BIT Referral					
	No	19743	N/A	N/A	92.53
	Yes	1593	N/A	N/A	7.47
Gender					
	Woman	12308	11369	939	7.63
	Man	8849	8232	617	6.97
	Another gender identity	92	68	24	26.08
	I prefer not to respond	87	74	13	14.94
Race					
	White	10743	9979	764	7.11
	Multiple	3307	3019	288	8.71
	Hispanic or Latino	2744	2550	194	7.07
	Asian	2096	1972	124	5.92
	Black or African American	1714	1549	165	9.63
	Another race/ethnicity	442	420	22	4.98
	Prefer not to respond	223	194	29	13
	American Indian/Alaska Native	25	21	4	16
	Native Hawaiian/Other Pacific Islander	25	22	3	12
	Ambiguous	17	17	0	0

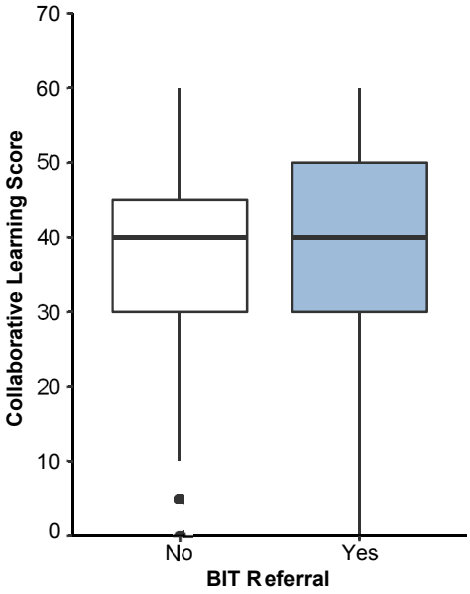

Figure 1

Mean scores on Expected Collaborative Learning scale.

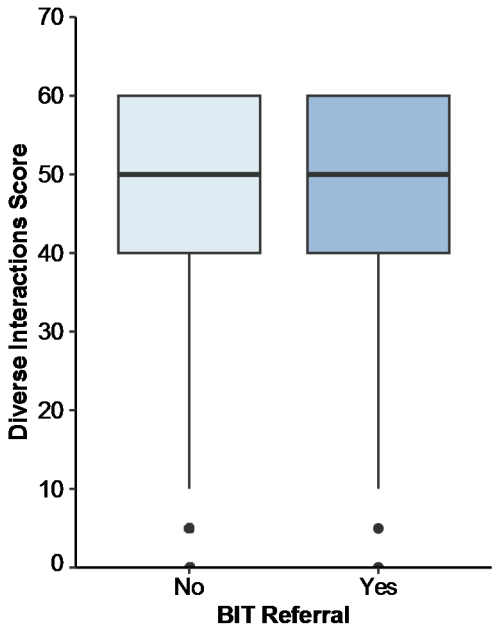

Figure 2

Mean scores on Expected Discussions with Diverse Others scale.

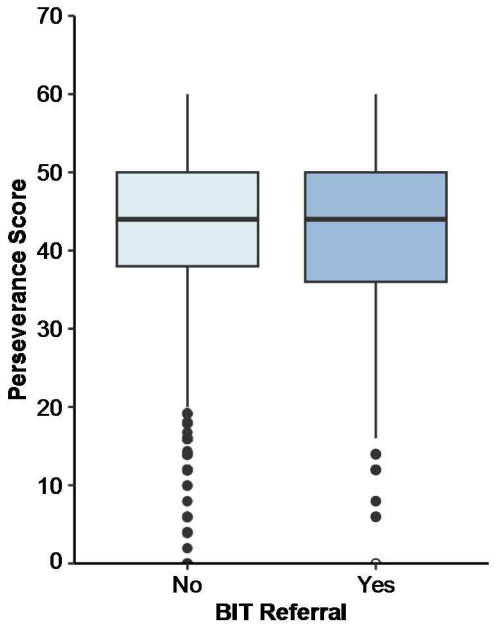

Figure 3

Mean scores on Expected Academic Perseverance scale.

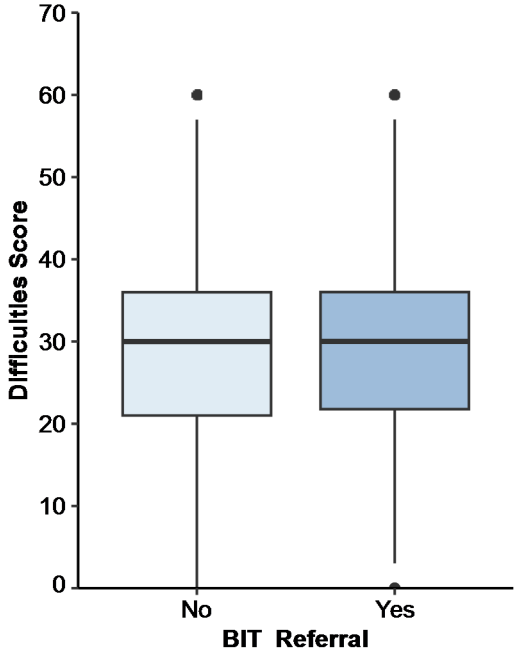

Figure 4

Mean scores on Expected Academic Difficulty scale.

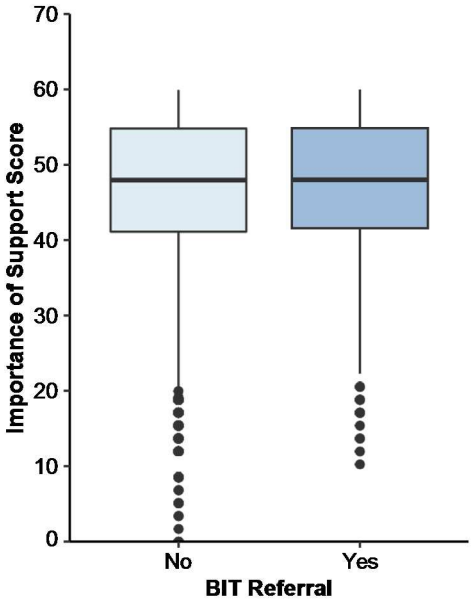

Figure 5

Mean scores on Importance of Campus Environment scale.

Results of the Analysis

This study sought to answer the following research question: To what extent are students' expectations for collaborative learning, interaction with individuals from diverse backgrounds, academic perseverance and difficulty, and supportive campus environment related to their likelihood to be referred to the BIT? A logistic regression analysis was conducted, as the dependent variable of a BIT referral was dichotomous (Yes or No), the independent variable of BCSSE scores was continuous, and the covariates of gender and race were categorical. To answer the research question, multiple logistic regression analyses were performed. First, each of the five BCSSE Scales used in this study (Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment) were used as individual predictors with no covariates. Second, the five BCSSE scales were included together as a group

of predictors with no covariates. Finally, the five BCSSE scales were included together as a group of variables with gender and race as covariates.

BCSSE Scales as Individual Predictors

Five logistic regression analyses were conducted to predict the dependent variable using each of the five BCSSE scales as individual predictors. The results of the logistic regressions for the BCSSE scales as individual predictors are presented below.

Expected Collaborative Learning BCSSE scale. This logistic regression studied the relationship between expectations for collaborative learning and a referral to the BIT. Table 6 presents the results of the logistic regression for the Expected Collaborative Learning BCSSE scale as a predictor variable. The probability of the Wald statistic for expected collaborative learning was .092, which is larger than the established level of significance of .05, indicating that there is no statistically significant relationship between expectations for collaborative learning and a referral to the BIT. When compared to the null model, the chi-square was not statistically significant at the alpha level of .05, as $\chi 2 = 2.842$, $p = .092$, indicating that the model including expected collaborative learning as a predictor is not a statistically significant improvement over the null model. This is reinforced by the Nagelkerke R^2 at .000, indicating that expected collaborative learning explains 0% of the variance in the outcome of a BIT referral. These statistics indicate that expected collaborative learning does not have a statistically significant effect on receiving a BIT referral.

Expected Discussions with Diverse Others BCSSE scale. This logistic regression studied the relationship between expectations for discussions with individuals from diverse backgrounds and a referral to the BIT. The results can be found in Table 7. The probability of the Wald statistic for expected discussions with diverse others was .430, which is larger than the

established level of significance of .05, indicating that there is no statistically significant relationship between expected discussions with individuals from diverse backgrounds and a referral to the BIT. In addition, when compared to the null model, the chi-square was not statistically significant at the alpha level of .05, as $\chi_2 = .625$, $p = .492$, indicating that the model including expected discussions with diverse others as a predictor is not a statistically significant improvement over the null model. This is reinforced by the Nagelkerke R^2 at .000, indicating that expected discussions with diverse others explains 0% of the variance in the outcome of a BIT referral. These statistics indicate that expected discussions with individuals from diverse backgrounds does not have a statistically significant effect on receiving a BIT referral.

Table 6

Logistic Regression of Expected Collaborative Learning and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	Upper
Expected Collaborative Learning	.004	.002	2.844	1	.092	1.004	.999	1.008
Constant	-2.663	.091	865.191	1	.000	.070		

Note: Nagelkerke $R^2 = .000$, Model $\chi_2 = 2.842$, $p = .092$

Table 7

Logistic Regression of Expected Discussions with Diverse Others and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	Upper
Expected Discussions w/Diverse Others	.002	.002	.662	1	.430	1.002	.998	1.006
Constant	-2.595	.103	637.348	1	.000	.075		

Note: Nagelkerke $R^2 = .000$, Model $\chi_2 = .625$, $p = .429$

Expected Academic Perseverance BCSSE scale. This logistic regression studied the relationship between expectations for academic perseverance and a referral to the BIT. Table 8 presents the results of this logistic regression. The probability of the Wald statistic for expected academic perseverance was .115, which is larger than the established level of significance of .05, indicating that there is no statistically significant relationship between expected academic perseverance and a referral to the BIT. In addition, when compared to the null model, the chi-square was not statistically significant at the alpha level of .05, as $\chi^2 = 2.468$, $p = .116$, indicating that the model including expected academic perseverance as a predictor is not a statistically significant improvement over the null model. This is reinforced by the Nagelkerke R^2 at .000, indicating that expectations for academic perseverance explains 0% of the variance in the outcome of a BIT referral. These statistics indicate that expected academic perseverance does not have a statistically significant effect on receiving a BIT referral.

Table 8

Logistic Regression of Expected Academic Perseverance and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	Upper
Expected Academic Perseverance	-.004	.003	2.479	1	.115	.996	.990	1.001
Constant	-2.324	.125	345.909	1	.000	.098		

Note: Nagelkerke $R^2 = .000$, Model $\chi^2 = 2.468$, $p = .116$

Expected Academic Difficulty BCSSE scale. As demonstrated in Table 9, this logistic regression studied the relationship between expected academic difficulty and a referral to the BIT. The probability of the Wald statistic for expected academic difficulty was .424, which is larger than the established level of significance of .05, indicating that there is no statistically

significant relationship between expected academic difficulty and a referral to the BIT. In addition, when compared to the null model, the chi-square was not statistically significant at the alpha level of .05, as $\chi^2 = .639$, $p = .424$, indicating that the model including expected academic difficulty as a predictor is not a statistically significant improvement over the null model. This is reinforced by the Nagelkerke R^2 at .000, indicating that expectations for academic difficulty explains 0% of the variance in the outcome of a BIT referral. These statistics indicate that expected academic difficulty does not have a statistically significant effect on receiving a BIT referral.

Table 9

Logistic Regression of Expected Academic Difficulty and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	Upper
Expected Academic Difficulty	.002	.003	.639	1	.424	1.002	.997	1.007
Constant	-2.582	.082	993.796	1	.000	.076		

Note: Nagelkerke $R^2 = .000$, Model $\chi^2 = .639$, $p = .424$

Importance of Campus Environment BCSSE scale. This logistic regression studied the relationship between importance of campus environment and a referral to the BIT. Table 10 presents the results of this analysis. The probability of the Wald statistic for importance of campus environment was .097, which is larger than the established level of significance of .05, indicating that there is no statistically significant relationship between importance of campus environment and a referral to the BIT. In addition, when compared to the null model, the chi-square was not statistically significant at the alpha level of .05, as $\chi^2 = 2.785$, $p = .097$, indicating that the model including importance of campus environment as a predictor is not a

statistically significant improvement over the null model. This is reinforced by the Nagelkerke R^2 at .000, indicating that importance of campus environment explains 0% of the variance in a predicted referral. These statistics indicate that expected academic difficulty does not have a statistically significant effect on receiving a BIT referral.

Table 10

Logistic Regression of Importance of Campus Environment and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	Upper
Expected Academic Difficulty	.005	.003	2.758	1	.097	1.005	.999	1.010
Constant	-2.738	.137	400.659	1	.000	.065		

Note: Nagelkerke $R^2 = .000$, Model $\chi_2 = 2.785$, $p = .097$

In each of the logistic regression models for the five BCSSE scales as individual predictors, the models predicted 100% of students to not need a referral, resulting in an overall accuracy of 92.5% for each model. The models correctly predicted students to *not* be referred, rather than correctly predicting the students who would be referred. These logistic regression models therefore indicate there are no statistically significant relationships between the five individual BCSSE scales and a referral to the BIT and the models do not predict a referral to the BIT.

Five BCSSE Scales as a Group of Predictors

This logistic regression model included the five BCSSE scales together as a group of predictors. If a model includes multiple predictors that are highly linearly related, it can be difficult to obtain a good model and interpret the results (Cody & Smith, 2006). Therefore, before including multiple predictor variables in the logistic regression model, this researcher

tested for multicollinearity among the predictor variables to test whether any of the predictor variables were highly linearly related. When checking for multicollinearity, all VIF values were below 5, suggesting multicollinearity was not an issue among the BCSSE scales. Table 11 presents the multicollinearity results for the BCSSE scales.

Table 11

VIF Values for Multiple Predictor Variables

Predictor Variable	VIF Statistic
Expected Collaborative Learning	1.177
Expected Discussions with Diverse Others	1.114
Expected Academic Perseverance	1.267
Expected Academic Difficulty	1.027
Importance of Campus Environment	1.289

Because multicollinearity is not an issue, the five BCSSE scales were included together as a group of predictors. Table 12 presents the logistic regression results from this model. In this model, $p > .05$ for Expected Collaborative Learning ($p = .094$), Expected Discussions with Diverse Others ($p = .535$), Expected Academic Difficulty ($p = .631$), and Importance of Campus Environment (p = 072), BCSSE scales indicating that they continue to not have a statistically significant relationship with a referral to the BIT even when used together as predictors. However, when considered with the other BCSSE scales, a student's expected academic perseverance did have a statistically significant relationship with a referral to the BIT. This statistical significance is demonstrated by the probability of the Wald statistic at .010, which is smaller than the established level of significance of .05. The odds ratio of .992 implies that a

one-unit increase in the student's score on the Expected Academic Perseverance BCSSE scale was associated with a .8% decrease in the odds of a referral to the BIT.

Table 12

Logistic Regression of Five BCSSE Scales and a BIT Referral

	B	S.E.	Wald	Df	*P*	Odds Ratio	95% C.I. Lower	95% C.I. Upper
Expected Collaborative Learning	.004	.002	2.807	1	.094	1.004	.999	1.009
Expected Discussions w/Diverse Others	.001	.002	.385	1	.535	1.001	.997	1.006
Expected Academic Perseverance	-.008	.003	6.689	1	.010	.992	.986	.998
Expected Academic Difficulty	.001	.003	.231	1	.631	1.001	.996	1.007
Importance of Campus Environment	.006	.003	3.230	1	.072	1.006	.999	1.012
Constant	-2.698	.192	197.695	1	.000	.067		

Note: Nagelkerke $R^2 = .001$, Model $\chi_2 = 12.139$, $p = .033$

When compared to the null model, the model chi-square was statistically significant at the alpha level of .05 as $\chi_2 = 12.139$, and $p = .033$, indicating that the model including the five BCSSE scales together was a statistically significant improvement over the null model. However, the model explained only .1% of the variance in the dependent variable of a referral to the BIT using Nagelkerke's R^2 (.001). Additionally, this model predicted that 100% of students would not receive a referral and again had 92.5% overall model accuracy. The model accurately

predicted students to not need a referral and did not accurately predict a referral to the BIT. Therefore, even though the model found a statistically significant relationship between expected academic perseverance and a referral to the BIT, the Nagelkerke R^2 statistic combined with the model only accurately predicting non-referrals, indicates that the model cannot predict a referral to the BIT.

Five BCSSE Scales with Gender and Race as Covariates

The final logistic regression model included the five BCSSE scales with gender and race as covariates. Table 13 presents these results. Of the five BCSSE scales, Expected Academic Perseverance remains the only scale with a *p* value smaller than the established level of significance of .05 with $p = .020$. This indicates that students' expected academic perseverance continues to have a statistically significant relationship with a referral to the BIT. Specifically, the odds ratio of .993 implies that a one-unit increase in the student's score on the Expected Academic Perseverance scale is associated with a .7% decrease in the odds of a referral to the BIT.

In this model, gender and race were also included as covariates. *Man* was used as the reference category for gender. Compared to men, women were not statistically significantly more likely to be referred to the BIT, as the *p* value for students who reported *woman* as their gender was .296, which is larger than the established level of significance of .05. Compared to men, students who reported another gender identity do have a statistically significant relationship with a referral to the BIT, as the probability of the Wald statistic was .000, which is smaller than the established level of significance of .05. Students who reported *I prefer not to respond* for their gender identity were also statistically significantly more likely to be referred to the BIT, as $p = .031$. Specifically, students who reported *I prefer not to respond* as their gender identity were

nearly two times as likely to be referred than men and students who reported another gender identity were 4.7 times more likely to be referred than men.

Table 13

Logistic Regression of 5 BCSSE Scales with Gender and Race as Covariates and BIT Referral as Outcome Variable

	B	S.E.	Wald	df	*P*	**Odds** Ratio	**95% C.I.** Lower	Upper
Expected Collaborative Learning	0.004	0.002	2.473	1	0.116	1.004	0.999	1.009
Expected Discussions w/Diverse Others	0.001	0.002	0.244	1	0.621	1.001	0.997	1.005
Expected Academic Perseverance	-0.008	0.003	5.421	1	0.020	0.993	0.986	0.999
Expected Academic Difficulty	0.002	0.003	0.333	1	0.564	1.002	0.996	1.007
Importance of Campus Environment	0.005	0.003	2.171	1	0.141	1.005	0.998	1.011
Gender			44.627	3	0.000			
Gender: I prefer not to respond	0.675	0.313	4.640	1	0.031	1.964	1.063	3.630
Gender: Woman	0.059	0.056	1.094	1	0.296	1.060	0.950	1.184
Gender: Another gender identity	1.565	0.245	40.766	1	0.000	4.782	2.958	7.730
Race			39.010	9	0.000			
Race: American Indian or Alaska Native	0.941	0.547	2.954	1	0.086	2.562	0.876	7.488
Race: Asian	-0.179	0.101	3.181	1	0.075	0.836	0.686	1.018
Race: Black or African American	0.313	0.092	11.564	1	0.001	1.368	1.142	1.639
Race: Hispanic or Latino	-0.002	0.084	0.000	1	0.985	0.998	0.846	1.178
Race: Native Hawaiian or Other Pacific Islander	0.572	0.617	0.859	1	0.354	1.772	0.529	5.941
Race: Ambiguous	-18.817	9897.536	0.000	1	0.998	0.000	0.000	
Race: Another race/identity	-0.365	0.222	2.689	1	0.101	0.694	0.449	1.074
Race: Prefer not to respond	0.598	0.209	8.154	1	0.004	1.819	1.206	2.742
Race: Multiple	0.215	0.073	8.693	1	0.003	1.240	1.075	1.430
Constant	-2.775	0.193	206.043	1	0.000	0.062		

Note: Nagelkerke $R^2 = .011$, Model $\chi 2 = 91.248$, $p = <.001$

When looking at race, $p > .05$ for American Indian or Alaskan Native ($p = 0.086$), Asian ($p = 0.075$), Hispanic or Latino ($p = 0.985$), Native Hawaiian or Other Pacific Islander ($p = 0.354$), ambiguous ($p = 0.998$), and another race or identity ($p = 0.101$), indicating that they are not statistically significantly more likely to be referred to the BIT than those who identify as White. Students who indicated their race to be Black or African American, *prefer not to respond*, or multiple races were statistically significantly more likely to be referred to the BIT than those students who identified as White, with p values of 0.001, 0.004, and 0.003, respectively. The odds ratio for these races indicates that when compared to White students, Black or African American students were 1.3 times more likely to be referred, students who preferred not to respond were 1.8 times more likely to be referred, and students who identified with multiple races were 1.2 times more likely to be referred.

While there is a statistically significant relationship between expectations for academic perseverance, and statistically significant differences in the likelihood of a referral for students who indicate their gender as another gender identity or prefer not to respond and who indicate their race as Black or African American, prefer not to respond, and multiple races, this model is still unable to predict a referral to the BIT. The model's chi-square of 91.248, $p = <.001$ indicates the model did perform better than the null model in predicting a referral. However, the weak predictive capabilities of the model are demonstrated by the Nagelkerke R^2 of .011, which implies that only 1.1% of the variance in the dependent variable of a referral to the BIT is explained by the predictors. Further, this model predicted with a 92.5% overall model accuracy but again only correctly predicted those students who would not need a referral to the BIT.

Summary

The results of this study demonstrate limited relationships between students' expected engagement and a referral to the BIT. This model cannot predict a referral to the BIT even in the instances of a statistically significant relationship. Despite poor predictive power, the results of the study can offer some insight into students' needs and who is more likely to need assistance by the BIT. Chapter Five provides further interpretation of the results of this study, implications for practice based on the results, and suggestions for further exploration and research related to predicting BIT referrals.

Chapter Five

Discussion

This chapter will review the purpose of the study and the methods used in the research. Additionally, the chapter will offer interpretations of the findings within the context of relevant research in the field and implications for practitioners based on these findings. Finally, this chapter will offer suggestions for future research to further understand and predict BIT referrals.

Summary of the Study

Behavioral Intervention Teams (BITs) evolved out of the Virginia Tech tragedy as a mechanism for heading off violence before it occurs while also supporting students who may never engage in violence but need support. These teams were born out of the concept that violence is preventable, as those who engage in violence tend to engage in warning behavior long before the attack, and have grown into a strategy for student support and retention (Sokolow & Lewis, 2009; Vossekuil et al., 2004).

Although BITs have existed for over a decade, a review of the literature demonstrated that they remain reactive, rather than proactive. BITs train their communities to look for the early warning signs that a student may need support or is moving toward violence. When a community member recognizes a warning sign, they make a referral to the BIT. This is a reactive approach, as it requires a student to already be in distress before receiving a referral for assistance. To truly be preventative, BIT administrators need research on the markers or indicators that increase a student's likelihood of needing support during their enrollment so that they may offer services prior to a student being in distress.

This study aimed to explore expected student engagement as a potential marker or indicator that a student will need assistance. Prior research demonstrates a connection between student engagement and mental health. Low (2011) found that students with the highest level of mental wellness spent more time engaged in their community and rated civic and community engagement higher than those with poorer mental health. Further, Robitschek and Keyes (2009) found that an individual's level of mental health was significantly related to their relationship with others and connections to the community. The prior research demonstrates a connection between engagement and complete mental health and warranted further understanding of the ability for expected levels of engagement to predict a referral to the BIT.

This study therefore used the Beginning College Survey of Student Engagement (BCSSE) as the instrument for study, as it is administered the summer prior to students matriculating to college and measures how students expect to engage while enrolled. The use of the BCSSE allowed for the examination of predictive variables, as the survey assesses how they expect to engage in the future, rather than how they have already engaged. This correlational study therefore examined the relationship between students' expected engagement as measured by the BCSSE and whether they are referred to the BIT during their enrollment. The study aimed to answer the following research question:

> To what extent are students' expectations for collaborative learning, interaction with individuals from diverse backgrounds, academic perseverance and difficulty, and a supportive campus environment related to their likelihood to be referred to the BIT?

Review of the Methods

This correlational study was conducted at a large public research institution in the Southeast. At the time of the study, the institution served 30,984 undergraduate students, 10,086

graduate students, 700 medical students, and 1,772 non-degree seeking students (Office of the USF System Provost and Executive Vice President, 2017). The campus served a diverse student body (20% Hispanic, 11% African American, and 7.5% Asian) and was primarily a commuter campus with only 22% of full-time undergraduate students living on campus (Ana Hernandez, personal communication, February 17, 2020; Office of the USF System Provost and Executive Vice President, 2017).

To answer the research question, this study used logistic regression analysis. Five BCSSE scales served as the predictor, or independent variables, and a referral to the BIT served as the dichotomous (yes or no) outcome, or dependent variable. A frequency analysis was conducted to determine the percentage of students representing each race and gender and the presence of a BIT referral. The researcher also comapred the mean for each BCSSE scale for students referred versus not referred. Following the frequency and mean analyses, seven logistic regression models were built and tested to analzye the relationship between student engagement and a BIT referral. First, each of the five BCSSE Scales used in this study (Expected Engagement in Collaborative Learning, Expected Discussions with Diverse Others, Expected Academic Perseverance, Expected Academic Difficulty, and Importance of Campus Environment) were used as individual predictors with no covariates. Second, the five BCSSE scales were included together as a group of predictors with no covariates. Finally, the five BCSSE scales were included together as a group of variables with gender and race as covariates.

Summary and Interpretation of the Findings

The frequency and mean analyses provided intial insights into the relationships between the predictor variables, covariates, and outcome variables. A comparison of the demographic variables of referred versus non-referred students demonstrated that students who identified as

woman were referred at approximately the same rate as those who identified as *man* (7.63% and 6.97%, respectively). Students who indicated another gender identity or *I prefer not to respond* were referred at higher rates of 26.08% and 14.94%, suggesting a possible relationship between these gender identities and the likelihood of receiving a BIT referral. Similarly, the initial frequency analysis of race for referred versus non-referred students demonstrated similar rates of referrals between students who identified the races of White (7.11%), multiple races (8.71%), Hispanic or Latino (7.07%), Asian (5.92) and another race/ethnicity (4.98%), and higher rates of referrals for students who identified the races of Black (9.63%), *prefer not to respond* (13%), American Indian/Alaska Native (16%), and Native Hawaiian or other Pacific Islander (12%). This again suggested a possible relationship between race and the likelihood of receiving a referral. The analysis of the mean score for each BCSSE scale for those referred versus non-referred demonstrated little differences between BCSSE scores for those who received a referral and those who did not.

While the frequency and mean analysis offer some initial insights and interesting results, they should not be interpreted as causal or predictive. Frequency and mean analysis do not demonstrate relationships between variables or the strength of those relationships. To better understand these relationships, and how the BCSSE scales might predict a BIT referral, further analyses were performed. In this study, the outcome variable of a BIT referral was dichotomoous (yes or no), the predictor variables of the BCSSE scales were continuous, and the covariates of race and gender were categorical; therefore, logistic regression was used to determine the predictive relaionship between the independent variable, the covariates, and the dependent variable.

The first logistic regression models included each BCSSE scale as an independent predictor. The BCSSE scales individually had poor predictive power and non-significant relationships with a referral to the BIT. Each BCSSE scale as an indepent variable had a *p* value >.05, suggesting that when analyzed individually, no individual scale for expected engagement indicates a higher likelihood of being referred to the BIT. Additionally, the Nagelkerke R^2 for each BCSSE scale as an individual predictor was .000, again suggesting that an individual BCSSE scale does not explain whether or not a student receives a referral to the BIT. One possible explanation for non-significant findings for independent BCSSE scales may be attributed to the concept that a student's need for support is often connected to multiple areas of their lives and cannot be predicted by looking at a narrow area of their engagement. It could be argued that expectations related to one singular area of engagement alone is not enough information to predict whether a student will need to be referred to the BIT.

This idea that a student's need for support is connected to more than one area of engagement is supported by the findings of the logistic regression including the five BCSSE scales as a group of predictors. When considered as a group of predictors, the *p* value remained greater than .05 for Expected Collaborative Learning (*p* = .094), Expected Discussions with Diverse Others (*p* = .535), Expected Academic Difficulty (*p* = .631), and Importance of Campus Environment (p = .072), indicating that they continue to have a non-significant relationship with a referral to the BIT. However, when considered with the other BCSSE scales, a student's Expected Academic Perseverance had a *p* value of .010, suggesting that in the context of other factors for engagement, Expected Academic Perseverance does have a significant relationship with a referral to the BIT. Specifically, the odds ratio of .992 implies that a one-unit increase in the student's score on the Expected Academic Perseverance scale was associated with a .8%

decrease in the odds of a referral to the BIT. Looking at how BCSSE scores this particular scale, an increase in the score for academic perseverance indicates that a student is increasingly more certain that they will study when there are other interesting things to do, find additional information for course assignments when they don't understand the material, participate regularly in course discussions, even when they don't feel like it, ask instructors for help when they struggle with course assignments, finish something they have started when they encounter challenges, and stay positive, even when they do poorly on a test or assignment. This suggests that as students' certainty in their ability to persevere academically increases, they are less likely to need a referral to the BIT.

Prior research supports the finding that increased confidence in the ability to persevere academically is related to a reduced need for support. Keyes's Complete Mental Health is premised on the idea that flourishing mental health is comprised of emotional well-being, psychological well-being, and positive social functioning (Keyes, 2002). Keyes conducted a study using his model on U.S. youth up to the age of 18, approximately the age of the students who take the BCSSE at the institution included in this study. Keyes's study aimed to investigate the relationship between level of mental health and level of psychosocial functioning (Keyes, 2006). In this study, Keyes (2006) found that students with flourishing and moderate mental health were significantly more likely to report high levels of self-determination ("I will try my best on all of my work"). This relationship aligns with the relationship found in this study between academic perseverance and a referral to the BIT. Specifically, students who are more confident in their ability to preserve, or who are self-determined, are less likely to need a referral for support.

The non-significant findings for the remaining BCSSE scales are surprising, however, given the prior research on the connections between engagement and complete or flourishing mental health. Several studies applied Keyes's model of complete mental health to understanding how levels of mental health impact an individual's social, academic, and occupational engagement (Fink, 2014; Keyes, 2006; Keyes et al., 2012; Low, 2011; Peter et al., 2011). The research found a significant relationship between social and academic engagement, including connection to others and the community, to be significant predictors of higher levels of mental health (Fink, 2014; Robitschek & Keyes, 2009). In another study, Low (2011) found that students with flourishing mental health rated civic and community engagement as more important and spent more time volunteering than those with lower levels of mental health. This prior research suggests a strong connection between an individual's overall ability to be mentally healthy and their engagement. The non-significant findings of this study, when analyzing the relationships between engagement and a referral for support, are possibly due to either faulty assumptions about the level of mental health for students referred to the BIT or issues with how students *expect* to engage versus how they *actually* engage in the college environment.

Faulty assumptions about the level of mental health of students referred to the BIT may have contributed to the non-significant findings of this study. BITs teach their communities how to identify a student in need of support, relying on red flags for emotional and mental health concerns as well as indicators of potential violence (Van Brunt et al., 2018). This researcher therefore assumed based on the prior research and known information about BITs that students who receive a referral to the BIT have less than flourishing mental health and therefore lower levels of engagement. If students referred to the BIT do not have lower levels of mental health, they may not demonstrate the same lower levels of engagement. After all, a referral to the BIT is

simply a proxy that a student is struggling or in need of support rather than an actual measure of their difficulty.

The other possible explanation for this study's non-significant findings may be related to the reliance on students' expectations about future behavior. This study chose to use BCSSE because it assesses students' expectations about future behavior in the college environment, and relationships between expectations and a referral would provide the BIT information to be proactive and preventative. Relationships between these expectations and the need for a referral for support while enrolled would allow BITs to develop predictive models for students who may need support and therefore engage in truly preventative outreach. However, four of the five BCSSE scales had non-significant relationships with a referral to the BIT. This suggests that students who are referred to the BIT expected that they would engage in similar ways to those who are not referred, even if those expectations were unrealistic or inaccurate. Students' expectations about how they expect to engage may be influenced by their lack of knowledge about what challenges they're going to face. Students at the institution of study take the BCSSE before they have ever taken a course at the institution. As incoming, first time in college students, they may be unaware of how they will actually engage while at college (or unwilling to be truthful about it in their first survey to college administrators) and their answers therefore may be motivated by excitement and hope about their college experience. Similarly, students may not expect to experience barriers, a crisis, or other difficult event that prompts a change in engagement or a need for support. Their answers may differ later in the semester, or during a more stressful period in their academic career, but at the time that the BCSSE is administered, students who will ultimately be referred for support expect that their engagement will be similar to those who do not receive a referral for support.

The relationship between expected academic perseverance and receiving a referral to the BIT continued to be significant when the five BCSSE scales were included as a group of predictors with the covariates of race and gender. The strength of this relationship weakened, however, when the influence of gender and race were included. In this model, the *p* value for the expected academic perseverance variable was .020 compared to .010 in the model without gender and race as covariates. This suggests that the relationship between expected academic perseverance and a referral to the BIT is influenced by gender and race.

Gender and race each also had significant relationships with a referral to the BIT. Black or African American students, students identifying as multiple races, and students who preferred not to respond regarding race were significantly more likely to be referred to the BIT than White students. Black or African American students and students identifying with multiple races were just under 1.5 times more likely to be referred, while students who preferred not to respond were almost twice as likely to be referred.

Prior research supports the findings that Black or African American and multiracial students are more likely to be referred to the BIT. Despite growths in college enrollment for Black or African American students, Black or African American students continue to experience barriers in relation to higher education. Black or African American students incur significantly more debt during college and face impactful financial barriers in accessing resources (Young Invincibles, 2017). Black or African American students are more likely to perceive significantly more discrimination, racial tensions, and separation from the campus community than their white peers (Ancis et al., 2000; Gossett et al., 1998). Additionally, Black or African American students are less likely to seek resources, have poorer attitudes toward help seeking, and higher rates of stigma related to treatment than their White peers (Narendorf et al., 2018).

Similarly, multiracial students experience similar difficulties, as racial and ethnic minority students are more likely than their White peers to experience alienation, marginalization, and loneliness (Primm, 2018). Other research also demonstrated that multiracial students experience discrimination and hostility related to race in a way that impacts their sense of self and interactions with their environment (Museus et al., 2015, 2016). The prior research on the experiences of Black or African American and multiracial students suggests that they may need additional resources and support while in college and therefore may be more likely to receive a referral to the BIT.

The significant relationship between a referral to the BIT and students who responded prefer not to respond for race is less easily explained by prior research. Students who indicated prefer not to respond may have selected this option because of potential feelings of fear or guardedness. The response of prefer not to respond suggests some hesitancy about disclosing race to the institution, on an official survey, or in a formal way. These feelings of fear, guardedness, or distrust may be due to prior negative experiences stemming from their racial identity and others' responses to it. Negative experiences or feelings of fear and distrust may be what leads students to need a referral for support and resources during their enrollment.

BCSSE provides four options for students when selecting their gender identity: *man, woman, another gender identity,* and *prefer not to respond*. When compared to men, women were not significantly more likely to be referred but students who responded with *another gender identity* or *prefer not to respond* were significantly more likely to be referred. Students who indicated they prefer not to respond were nearly twice as likely as men to be referred and students who indicated another gender identity were almost five times as likely as men to be referred to the BIT. BCSSE only provides four options for gender, two of which align with the

gender binary and two which provide other, albeit nondescript, options for individuals who may not identify with a binary gender. These findings therefore suggest that individuals who identify as non-binary or who prefer not to respond to the limited options provided are more likely to be referred to the BIT.

Prior research on non-binary students also supports the findings that they are more likely to need support and therefore referred to the BIT than their cisgender or gender conforming peers. In an analysis of students seeking services at university counseling centers, Platt (2020) found that gender non-conforming students presented with higher acuity and more severe concerns than their cisgender peers. Even among those students not necessarily seeking clinical treatment, gender minority students experienced higher prevalence of symptoms of a mental health issue than cisgender students, including suicidality, depression, anxiety, and eating disorders (Lipson et al., 2019). The higher rates of mental health difficulties coupled with greater likelihood of more acute and more severe mental health concerns support the findings of this study which suggest that students who did not identify a binary gender were more likely to receive a referral to the BIT.

While this study did find significant relationships between expected academic perseverance, gender, and race and a referral to the BIT, overall, the models built in this study could not predict a referral to the BIT. Each model predicted 100% of students to not need a BIT referral.This allowed for a high model accuracy of 92.5%, but the model only accurately predicted the students who would not receive a BIT referral and never accurately predicted a referral to the BIT. This is likely because only 7.5% of the actual sample was referred to the BIT and there is therefore not enough information for the model to predict a referral. Therefore, even

in instances where significant relationships exist, these relationships do not predict a referral to the BIT.

Implications for Practice

The findings from this study suggest limited differences between the expectations of engagement for students who are referred to the BIT and those who are not. Additionally, the relationships that do exist between engagement, gender, and race and a referral to the BIT cannot serve as predictive models as the models do not accurately predict those in need of a referral. Despite limited significant findings and the inability to predict a referral to the BIT, the findings of this study do contribute to the body of research on students in need of support and who could benefit from a referral to the BIT.

Taking into consideration the lack of ability to predict a BIT referral based on student expectations for engagement, practitioners should consider the finding that expected academic perseverance is related to a referral to the BIT. This finding suggests that as students' certainty about their ability to persevere academically increases, their likelihood to need a referral for support decreases. BIT practitioners and other student support educators should consider developing programming to increase students' confidence in their ability to persevere academically. This programming could include educational sessions aimed at teaching students about the resources available to assist them when they encounter academic challenges as well as skills for studying, academic organization, time management and other academic strategies.

Although the relationship is lacking predictive power, non-binary and gender non-conforming students demonstrate an increased likelihood of a referral to the BIT. Practitioners should therefore consider programming aimed at supporting these students. Gender non-binary and gender non-conforming students are significantly at risk for discrimination, mental health

issues, self-harm, and suicide. Educators should create and deliver programming aimed at improving the overall well-being and access to resources for non-binary and gender non-conforming students as well as improving the campus culture for all LGBTQ students. Additionally, BIT practitioners and case managers should be trained in the specific issues that gender non-conforming students face and the appropriate strategies for supporting them given their increased likelihood of receiving a referral to the BIT.

Similarly, Black or African American and multiracial students demonstrated an increased likelihood of a referral to the BIT and could benefit from proactive outreach and programming to increase their well-being and continued access to care. Given the experiences related to discrimination, racial tensions, and isolation, campus administrators should create programming to improve the campus climate related to racial diversity. Additionally, campus support staff should offer tailored services designed to respond to the unique needs of, and in some cases racial trauma of, Black or African American and multiracial students. Given the stigma related to help-seeking behavior for Black or African American students, administrators would be wise to take efforts aimed at normalizing access to care and creating services that meet students in less formal and structured ways.

Suggestions for Future Research

The findings from this study demonstrated limited relationships between types of expected engagement and a referral to the BIT. Additionally, the study was not successful in building a model that can predict referrals to the BIT. However, the study did demonstrate a relationship between expected academic perseverance and a referral to the BIT as well as between gender and race and a referral to the BIT. Therefore, future research should explore

these relationships further as well as continue the study of variables that contribute to an individual's likelihood of a referral to the BIT.

When added as covariates, this study found that gender and race influence a referral to the BIT. Specifically, students who indicated *another gender identity* or *prefer not to respond* were more likely to be referred to the BIT than men and students who indicated their race to be Black or African American, multiple races, or *prefer not to respond* were more likely to be referred than White students. Further research into the students who identified another gender identity and preferred not to respond to gender identity may provide additional understanding into the experiences and characteristics of these students as well as a deeper understanding of why they are more likely to be referred. Similarly, further research should explore the experiences of Black or African American students and students of multiple races to gain a deeper understanding of what contributes to their increased likelihood of a referral to the BIT. Additionally, further research on the students who indicated their race as prefer not to respond is needed to understand these students' experiences and what characteristics they share that increase their likelihood of receiving a referral for support. Further research should also analyze the relationship between racial identity and a BIT referral, including the reasons students were referred and who referred them. The increased likelihood of Black or African American students and students indicating multiple races receiving a BIT referral might be related to an increased need for support, but it might also indicate a bias in who receives a BIT referral. Further research should analyze the BIT referrals to explore possible issues related to bias.

This study found a significant relationship between a student's expectations for academic perseverance and a referral to the BIT. Therefore, further research into students' beliefs about their ability to persevere through academic challenges could be helpful in understanding their

need for support. Additionally, given the prevailing research that suggests a connection between other areas of engagement and a student's overall mental health, it may be necessary to more closely examine the non-significant findings of this study related to engagement and a referral to the BIT. Given that students referred to the BIT *expected* to engage in the same way as students not referred, further exploration about how students' expectations differ from their actual behavior could be beneficial. While BCSSE alone might not be able to predict a referral to the BIT, given the prior research examining engagement, it may be part of the explanation for a student's referral to the BIT. Therefore, further research could include BCSSE in addition to other variables such as GPA, prior engagement in treatment or support resources, levels of family support, etc. to develop a predictive model for a referral to the BIT.

Similarly, this study was not able to create a model that accurately predicted a referral to the BIT. Because so few students are referred to the BIT (7.45% of the study's sample), there was not enough information for the model to predict a referral and therefore it predicted that everyone would not receive a referral. Because a referral to the BIT is uncommon, it is difficult to find significant differences between those referred versus those not referred; therefore, further research should consider using only students referred to the BIT as the sample and explore common factors of those referred. This analysis will help contribute to the understanding of who is need of a referral and will assist in giving BITs the ability to be more proactive and preventative.

Conclusion

This study explored the relationship between students' expectations for engagement and the likelihood of receiving a referral to the BIT. Keyes's research suggests that administrators should consider students' complete mental health, and that the absence of a mental illness does

not mean the student is completely mentally healthy. Further, Keyes's complete mental health model demonstrates a relationship between engagement and complete mental health. Therefore, this study aimed to identify engagement predictors for a referral to the BIT for support to assist BITs in becoming more proactive and preventative in their intervention with students. The findings of this study suggest a relationship between expectations for academic perseverance, gender, and race and a referral to the BIT, but these relationships cannot build a model to predict a referral.

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Appendix: Survey Instrument

Beginning College Survey of Student Engagement (BCSSE)

***bmodecmp* Mode of survey completion**
Response options: ***1*** *Paper,* ***2*** *Web*

***bstudid* Please enter your Student ID number in the box below. Do not enter your Social Security number.**
Response option: [write-in response]

***postcode* Please write in the 5-digit ZIP code of your home during your last year of high school**
Response option: [write-in response]

***complete* Respondent submitted at least one question in the demographics section**
Response options: ***1*** *Yes,* ***0*** *No*

***hgradyr* Please write in the year you graduated from high school (for example, 2021):**
Response options: [Write-in response]

sType Status as first-year, transfer, or older student.

First-year students were recent high school graduates who met one of the following criteria:

a. All paper survey respondents regardless of high school graduation year.
b. Web respondents who graduated high school in 2021.
c. Web respondents who graduated high school in 2020 or 2019 and did not attend another institution since graduating high school.
d. Web respondents who graduated high school in 2020 or 2019 and did attend another institution since graduating high school and expects to transfer 11 or fewer credits

First-year students continue with Item htype13

Transfer students were those respondents who met the following criteria:

All web respondents who attended a college or university after graduation from high school and expects to transfer 12 or more credits and graduated prior to the current year.

Transfer students continue with Item tgrades

Older students were those respondents who met one of the following criteria:

a. Web respondents who graduated high school in 2018 or earlier and did not attend another institution since graduating high school.
b. Web respondents who graduated high school in 2018 or earlier and did attend another institution since graduating high school and expects to transfer 11 or fewer credits.

Older students continue with Item "How important were the following reasons for choosing this institution?"

*Re-coded as: **1** First-year student, **2** Transfer Student, **3** Older Student*

htype13** **From which type of high school did you graduate? (Select only one.)
*Response options: **1** Public, **2** Private, religiously-affiliated, **3** Private, not religiously-affiliated, **4** Home school, **5** Other (e.g., GED)*

hgrades17** **What were most of your high school grades? (Select only one.)
*Response options: **9** A+, **8** A, **7** A-, **6** B+, **5** B, **4** B-, **3** C+, **2** C, **1** C- or lower, **99** Grades not used*

Have you earned a grade of "C" or better in the following math classes?
*Response options: **1** Yes, **0** No*

a. ***halg13*** Algebra II
b. ***hprecalc13*** Pre-Calculus/Trigonometry
c. ***hcalc13*** Calculus
d. ***hstats13*** Probability or Statistics

If you completed the SAT and/or ACT, enter your scores below (as best you remember):

a. ***hsatrw17*** SAT: Reading and Writing (possible range= 200-800)
Response option: [Write-in response]
b. ***hsatm17*** SAT: Math (possible range= 200-800)
Response option: [Write-in response]
c. **hact** ACT: Composite (possible range= 1-36)
Response option: [Write-in response]
sat_act17r recode based on SAT and ACT composite created by BCSSE which is categorized into the following groups: 900 or lower, 901-1000, 1001-1100, 1101-1200, 1201-1300, 1301-1400, and 1401-1600.

During high school, how many of the following types of classes did you complete?
*Response options: **1** 0, **2** 1-2, **3** 3-4, **4** 5-6, **5** 7-8, **6** 9-10, **7** 11 or more*

a. ***hapcl13*** Advanced Placement (AP)
hapcl13num recoded version of hapcl13 created by BCSSE. Values are estimated number of AP classes.
b. ***hdc17*** University or college courses for credit
hdc17num recoded version of hdc17 created by BCSSE. Values are estimated number of dual credit classes.
c. ***hib17*** International Baccalaureate (IB)
hib17num recoded version of hib17 created by BCSSE. Values are estimated number of international baccalaureate classes.

During your last year of high school, about how many papers, reports, or other writing tasks of the following lengths did you complete?
*Response options: **1** None, **2** 1-2, **3** 3-5, **4** 6-10, **5** 11-15, **6** 16-20, **7** More than 20*

a. ***hwrshrt*** Up to 5 pages
   hwrshrtnum recoded version of hwrshrt created by BCSSE. Values are estimated number of papers, reports, etc.
b. ***hwrmd*** Between 6 and 10 pages
   hwrmdnum recoded version of hwrmd created by BCSSE. Values are estimated number of papers, reports, etc.
c. ***hwrlng*** 11 pages or more
   hwrlngnum recoded version of hwrlng created by BCSSE. Values are estimated number of papers, reports, etc.

During your last year of high school, about how many hours did you spend in a typical 7-day week doing the following?

*Response options: **1** 0, **2** 1-5, **3** 6-10, **4** 11-15, **5** 16-20, **6** 21-25, **7** 26-30, **8** More than 30*

a. ***hacadpr13*** Preparing for class (studying, reading, doing homework, etc.)
   hacadpr13hrs recoded version of hacdpr13 created by BCSSE. Values are estimated number of hours.
b. ***hwork*** Working for pay
   hworkhrs recoded version of hwork created by BCSSE. Values are estimated number of hours.
c. ***hcocurr*** Participating in co-curricular activities (organizations, school publications, student government, sports, etc.)
   hcocurrhrs recoded version of hcocurr created by BCSSE. Values are estimated number of hours.
d. ***hsocial13*** Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)
   hsocial13hrs recoded version of hsocial13 created by BCSSE. Values are estimated number of hours.

htmread14 During your last year of high school, of the time you spent preparing for class in a typical 7-day week, about how much was on assigned reading?

*Response options: **1** Very little, **2** Some, **3** About half, **4** Most, **5** Almost all*

During your last year of high school, about how often did you do the following?

*Response options: **4** Very often, **3** Often, **2** Sometimes, **1** Never*

a. ***hunprepard*** Came to class without completing readings or assignments
b. ***hdrafting*** Prepared two or more drafts of a paper or assignment before turning it in
c. ***hQRconclud*** Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)*
d. ***hQRproblm*** Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)*
e. ***hQRevaluat*** Evaluated what others have concluded from numerical information*

***AGGREGATE BCSSE SCALE HIGH SCHOOL ENGAGEMENT IN QUANTITATIVE REASONING (HS_QR)**

f. ***hLSreading*** Identified key information from reading assignments*
g. ***hLSnotes*** Reviewed your notes after class*
h. ***hLSsummry*** Summarized what you learned in class or from course materials*

*Aggregate BCSSE Scale High School Engagement in Learning Strategies (HS_LS)

i. ***hridivers*** Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments
j. ***hriownview*** Examined the strengths and weaknesses of your own views on a topic or issue
k. ***hriperspct*** Tried to better understand someone else's views by imagining how an issue looks from their perspective

During your high school years, how involved were you in the following activities at your school or elsewhere?

*Response options: **5** Very much, **4** Quite a bit, **3** Some, **2** Very little, **1** Not at all*

a. ***hinvarts*** Performing or visual arts programs (band, chorus, theater, art, etc.)
b. ***hinvathl*** Athletic teams (varsity, JV, club sport, etc.)
c. ***hstugov*** Student government
d. ***hinvpubs*** Publications (student newspaper, yearbook, etc.)
e. ***hinvhon13*** Academic clubs or honor societies
f. ***hinvvccl*** Vocational clubs (business, health, technology, etc.)
g. ***hrelgrp*** Religious youth groups
h. ***hvolntr*** Community service or volunteer work

hchallenge ***During your last year of high school, to what extent did your courses challenge you to do your best work?***

*Response options: Seven point scale: **1** Not at all to **7** Very much*

During the coming school year, about how many hours do you expect to spend in a typical 7-day week doing the following?

*Response options: **1** 0, **2** 1-5, **3** 6-10, **4** 11-15, **5** 16-20, **6** 21-25, **7** 26-30, **8** More than 30*

a. ***cacadpr13*** Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)
   cacadpr13hrs recoded version of cacadpr13 created by BCSSE. Values are estimated number of hours.
b. ***cwork*** Working for pay on- or off-campus
   cworkhrs recoded version of cwork created by BCSSE. Values are estimated number of hours.
c. ***ccocurr*** Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.)
   ccocurrhrs recoded version of ccocurr created by BCSSE. Values are estimated number of hours.
d. ***csocial13*** Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.)
   csocial13hrs recoded version of csocial13 created by BCSSE. Values are estimated number of hours.

ctmread17 ***During the coming school year, of the time you expect to spend preparing for class in a typical 7-day week, about how much will be on assigned reading?***

*Response options: **1** Very little, **2** Some, **3** About half, **4** Most, **5** Almost all*

During the coming school year, about how often do you expect to do the following?

*Response options: **4** Very often, **3** Often, **2** Sometimes, **1** Never*

a. ***cCLaskhlp*** Ask another student to help you understand course material*
b. ***cCLxplain*** Explain course material to one or more students*
c. ***cCLstudy*** Prepare for exams by discussing or working through course material with other students*
d. ***cCLprojct*** Work with other students on course projects or assignments*

***AGGREGATE BCSSE SCALE EXPECTED ENGAGEMENT IN COLLABORATIVE LEARNING (EXP_CL)**

e. ***cSFcareer*** Talk about career plans with a faculty member*
f. ***cSFothrwrk*** Work with a faculty member on activities other than coursework (committees, student groups, etc.)*
g. ***cSFprform*** Discuss your academic performance with a faculty member*
h. ***cSFdiscuss*** Discuss course topics, ideas, or concepts with a faculty member outside of class*

***AGGREGATE BCSSE SCALE EXPECTED ENGAGEMENT WITH FACULTY (EXP_SFI)**

i. ***cdrafting*** Prepare two or more drafts of a paper or assignment before turning it in
j. ***cunprepard*** Come to class without completing readings or assignments

During the coming school year, about how often do you expect to have discussions with people from the following groups?

*Response options: **4** Very often, **3** Often, **2** Sometimes, **1** Never*

a. ***cDVrace*** People of a race or ethnicity other than your own*
b. ***cDVeconomc*** People from an economic background other than your own*
c. ***cDVreligion*** People with religious beliefs other than your own*
d. ***cDVpolitical*** People with political views other than your own*

***AGGREGATE BCSSE SCALE EXPECTED DISCUSSIONS WITH DIVERSE OTHERS (EXP_DD)**

During the coming school year, how certain are you that you will do the following?

*Response options: Six point scale: **1** Not at all certain to **6** Very certain*

a. ***cotherint*** Study when there are other interesting things to do*
b. ***cfindinfo*** Find additional information for course assignments when you don't understand the material*
c. ***ccourdis*** Participate regularly in course discussions, even when you don't feel like it*
d. ***caskinst*** Ask instructors for help when you struggle with course assignments*
e. ***cfinish*** Finish something you have started when you encounter challenges*
f. ***cstaypos*** Stay positive, even when you do poorly on a test or assignment*

***AGGREGATE BCSSE SCALE EXPECTED ACADEMIC PERSEVERANCE (EXP_PER)**

During the coming school year, how difficult do you expect the following to be?

*Response options: Six point scale: **1** Not at all difficult to **6** Very difficult*

a. ***clearnma*** Learning course material*
b. ***cmantime*** Managing your time*
c. ***cpaycoll*** Paying college or university expenses
d. ***cgethelp*** Getting help with school work*
e. ***cmakefr*** Making new friends
f. ***cintfac*** Interacting with faculty*

*Aggregate BCSSE Scale Expected Academic Difficulty (EXP_DIF)

During the coming school year, about how often do you expect to seek help with coursework from the following sources?

*Response options: **4** Very often, **3** Often, **2** Sometimes, **1** Never*

a. ***cseekfac*** Faculty members
b. ***cseekaa*** Academic advisors
c. ***cseekls*** Learning support services (tutoring, writing center, success coaching, etc.)
d. ***cseekfrnd*** Friends or other students
e. ***cseekfam*** Family members
f. ***cseekoth*** Other persons or offices

How prepared are you to do the following in your academic work at this institution?

*Response options: Six point scale: **1** Not at all prepared to **6** Very prepared*

a. ***cSGwrite*** Write clearly and effectively*
b. ***cSGspeak*** Speak clearly and effectively*
c. ***cSGthink*** Think critically and analytically*
d. ***cSGanalyze*** Analyze numerical and statistical information*
e. ***cSGothers*** Work effectively with others*
f. ***cgncompt13*** Use computing and information technology*
g. ***cgninq*** Learn effectively on your own*

*Aggregate BCSSE Scale Perceived Academic Preparation (PER_PREP)

How important is it to you that your institution provides the following?

*Response options: Six point scale: **1** Not important to **6** Very important*

a. ***cacadexp*** A challenging academic experience*
b. ***cSEacad*** Support to help students succeed academically*
c. ***cSEdiv*** Opportunities to interact with students from different backgrounds (social, racial/ethnic, religious, etc.)*
d. ***cSEnacad*** Help managing your non-academic responsibilities (work, family, etc.)*
e. ***cSEsoc*** Opportunities to be involved socially*
f. ***cSEact*** Opportunities to attend campus activities and events*
g. ***cSEserv*** Learning support services (tutoring, writing center, success coaching, etc.)*

*Aggregate BCSSE Scale Importance of Campus Environment (IMP_CAMP)

Which of the following sources are you using to pay for your education expenses (tuition, fees, books, room & board, etc.)? For each, tell us if you are using, not using, or not sure.

Response options: **1** Using, **2** Not using, **9** Not sure

a. ***cparents*** Support from parents or relatives
b. ***cloans*** Loans
c. ***cgrants*** Grants or scholarships
d. ***cjob*** Employment on- or off- campus
e. ***cpersonal*** Personal savings or other sources

cgrades19 What do you expect most of your grades will be during the coming year? (Select only one.)

*Response options: **8** A, **7** A-, **6** B+, **5** B, **4** B-, **3** C+, **2** C, **1** C- or lower, **99** Grades not used*

cintgrad Do you expect to graduate from this institution?

*Response options: **1** Yes, **0** No, **9** Uncertain*

cmajor Do you know what your major will be?

*Response options: **1** Yes, **0** No*

cmajonea Please enter your major or expected major [write-in response]

[If answered **1** Yes on cmajor] ***cmajcode*** Specify [write-in provided for variable cmajor]

cmajrcol recode based on cmajcode into one of the following major categories: Arts & Humanities, Biological Sci., Mathematics & Computer Science, Social Sciences, Business, Communications, Media, & Public Relations, Education, Engineering, Health Professions, Social Service Professions, All Other, and ***cmajrpsel*** Undecided, Undeclared

cfulltime18 Are you (or will you be) a full-time student at this institution?

*Response options: **1** Yes, **0** No*

cfriends How many of your close friends will attend this institution during the coming year?

*Response options: **1** None, **2** 1, **3** 2, **4** 3, **5** 4 or more*

cchoice17 This institution was your:

*Response options: **1** First choice, **2** Second choice, **3** Third choice or lower*

cgender What is your gender identity?

*Response options: **1** Man, **2** Woman, **3** Another gender identity, **9** I prefer not to respond*

cinternat Are you an international student?

*Response options: **1**Yes, **0** No*

How would you describe yourself? (Select all that apply.)

*Response options: **1** Selected, **0** Not Selected*

a. ***c_amind*** American Indian or Alaska Native
b. ***c_asian*** Asian
c. ***c_black*** Black or African American

d. ***c_latino*** Hispanic or Latino
e. ***c_mena*** Middle Eastern or North African
f. ***c_pacific*** Native Hawaiian or Other Pacific Islander
g. ***c_white*** White
h. ***c_another*** Another race or ethnicity
i. ***c_pnr*** I prefer not to respond

crace recode based on selections where each student is represented only once. Multiracial represents students who selected more than one identification.

cpardegr18 ***Regarding your parents (or those who raised you), what is the highest level of education completed by either of them?***

Response options: ***1*** *Did not finish high school,* ***2*** *High school diploma or GED,* ***3*** *Attended college but did not complete degree,* ***4*** *Associate's degree (AA, AS, etc.),* ***5*** *Bachelor's degree (BA, BS, etc.),* ***6*** *Master's degree (MA, MS, etc.),* ***7*** *Doctoral or professional degree (PhD, JD, MD, etc.)*

bfirstgen recode based on response from students on cpardegr18 which is grouped into the following categories: First-generation (neither parent nor anyone who raised you holds a bachelor's degree) and Not first-generation (either parent or anyone who raised you holds a bachelor's degree).

cliving18 ***Which of the following best describes where you will be living while attending college?***

Response options: ***1*** *Campus housing (other than a fraternity or sorority house),* ***2*** *Fraternity or sorority house,* ***3*** *House, apartment, or other residence* ***within walking distance*** *to campus,* ***4*** *House, apartment, or other residence* ***farther than walking distance*** *to campus,* ***5*** *Not applicable: No campus, entirely online program, etc.,* ***6*** *Not applicable: Homeless or in transition*

Enter your name below:

Response options: [write-in response]

a. ***FN17*** Given/First Name
b. ***LN17*** Family/Last Name

BCSSE Scale scores are the mean of the component items after all individual item values have been converted to 0-60 point scales.

HS_QR ***High School engagement in quantitative reasoning***
HS_LS ***High School engagement in learning strategies***
EXP_CL ***Expected engagement in collaborative learning***
EXP_SFI ***Expected engagement with faculty***
EXP_DD ***Expected discussions with diverse others***
EXP_PER ***Expected Academic Perseverance Scale: Student certainty that they will persist in the face of academic adversity***
EXP_DIF ***Expected Academic Difficulty Scale: Expected academic difficulty during the first year of college (university)***
PER_PREP ***Perceived Academic Preparation Scale: Student perception of their academic preparation***
IMP_CAMP ***Importance of Campus Environment Scale: Student-rated importance that the institution provides a challenging and supportive environment***

MISCELLANEOUS INFORMATION

bsurvid ***BCSSE survey ID number***

bversion ***Questionnaire version (e.g., Standard U.S., Canadian)***

Re-coded as: ***1*** *Standard,* ***3*** *Canadian (English)*

bdurationCore ***Survey duration***

bfirstgen ***First-Generation Status (neither parent or anyone who raised you holds a bachelor's degree)***

Response options: ***1*** *Completed bachelor's degree,* ***0*** *Did not complete bachelor's degree*