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The Effects of Depression, Anxiety, and Stress on College Students: Examining the Role of Mental Health Self-Efficacy on Willingness to Engage in Mental Health Services

Leeanna L. Golembiewski
Old Dominion University, lgole001@odu.edu

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THE EFFECTS OF DEPRESSION, ANXIETY, AND STRESS ON COLLEGE STUDENTS:
EXAMINING THE ROLE OF MENTAL HEALTH SELF-EFFICACY ON WILLINGNESS
TO ENGAGE IN MENTAL HEALTH SERVICES

by

Leeanna L. Golembiewski
B.S. May 2015, Edinboro University of Pennsylvania
M.S. May 2017, University of Pittsburgh

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Approved by:

Michelle L. Kelley (Director)

Tony Perez (Member)

Ivan K. Ash (Member)

ABSTRACT**THE EFFECTS OF DEPRESSION, ANXIETY, AND STRESS IN COLLEGE STUDENTS:
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Leeanna L. Golembiewski
Old Dominion University, 2021
Director: Michelle L. Kelley

Relative to younger ages, mental health problems are more prevalent among college students (Pedrelli et al., 2015) and nearly 20% of U.S college students are diagnosed each year with a mental health problem (Blanco et al., 2008). College students' self-efficacy may influence mental health outcomes by impacting an individual's decision to change their behavior and execute a course of action (Bresó et al., 2011). Mental health may also be influenced by the degree of willingness that an individual possesses, such that those who are more willing to seek mental health treatment are also more likely to follow through and seek help (Segal et al., 2005). Participants in the present study were first-year freshman college students who completed an online survey. Specifically, it was predicted that mental health symptoms would be negatively associated with mental health self-efficacy, and that higher mental health self-efficacy would be associated with greater willingness to engage in mental health services. Additionally, it was hypothesized that mental health self-efficacy would mediate the relationship between mental health problems and willingness to engage in mental health services. Mental health symptoms were negatively associated with mental health self-efficacy; however, mental health self-efficacy was not significantly associated with willingness to engage in mental health services. Lastly, mental health self-efficacy did not significantly mediate the relationship between mental health symptoms and willingness to engage in mental health services. Results from this study highlight

the importance of increasing access to mental health prevention and intervention programs to assist college students with mental health problems who may be hesitant to seek services.

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This thesis is dedicated to my mother, Dr. Gae Anderson-Miller. To the woman who loved me, raised me, and missed her own Doctoral hooding ceremony just to give birth to me. I have lived my entire life watching you, adoring you, and aspiring to be you. As a professor and lifelong educator, you raised me in the classroom...maybe that's why I never left. I lo lo.

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CHAPTER I

INTRODUCTION

Self-efficacy refers to “an individual's belief in their capacity to execute behaviors necessary to produce specific performance attainments” (Bandura, 1977). Theory and empirical research suggest that perceived self-efficacy pertaining to mental health is related to individuals’ psychological well-being (David et al., 2009). Further, self-efficacy is used frequently with college students to predict health behaviors, determine whether health behavior change will be initiated, and influence individual mental health outcomes (Bresó et al. 2011). Mental health self-efficacy has been identified as specific type of self-efficacy which may influence students’ attitudes and willingness to seek treatment. Understanding factors that impact college students’ willingness to engage in mental health services is critical as 39% of college students in the United States struggle annually with at least one mental health problem (Network, 2016). Therefore, the present study examines associations between mental health symptoms, mental health self-efficacy, and willingness to engage in mental health services.

College Students’ Mental Health

Nearly 100 years after G. Stanley Hall (1904) proposed that adolescence is inherently a time of storm and stress, his view continues to be recognized in psychological research (Arnett, 1999). The developmental period which occurs between ages 18-25 is known as emerging adulthood (Arnett, 2000). Essentially, this is when individuals tend to consider themselves too old to be adolescents, but do not yet identify as fully matured adults (Reifman et al., 2007). According to Arnett (2000), individuals are gaining independence, but have not yet entered the enduring responsibilities that are normative in adulthood. There are five characteristics which distinguish emerging adulthood from other life stages including: the age of identity explorations,

the age of instability, the self-focused age, the age of feeling in-between, and the age of possibilities (Reifman et al., 2007).

Four of these dimensions refer to emerging adulthood in a relatively favorable light. However, these positive dimensions may also be joined with feelings of tension and uncertainty. There are a number of challenges and changes that occur during this period which could make individuals feel overwhelmed (Robbins & Wilner, 2001). Among these changes, many emerging adults experience the transition from home to college. In fact, of the 2.9 million students who completed high school in 2017, roughly 1.9 million or 67%, were enrolled in college by the following October (McFarland et al., 2019). Despite feelings of enthusiasm, many students entering college also experience greater stress and as a result, mental health problems are increasingly identified in this population (Pedrelli et al., 2015).

According to the U.S Census report, there are currently 16 million students attending colleges across the country (Sullivan, 2020). Approximately three-quarters of lifetime mental disorders have their first onset by age 24 (Kessler et al., 2005), and nearly 20% of U.S college students are diagnosed annually with a mental health problem (Blanco et al., 2008). Within this population, the most common mental health problems are stress, anxiety, and depression (Beiter et al., 2015). Of these three problems, approximately 11.9 % of college students have an anxiety disorder (Pedrelli et al., 2015) and on average, 1 in 4 college students have experienced symptoms of depression (Woodhead et al., 2020). College students treated for depression have reported significantly more stress than students without a diagnosis (Aselton, 2012). Rates of suicide are also prevalent in this population, with studies indicating that 1 in 10 college students with depression have endorsed suicidal thoughts (Woodhead et al., 2020). Pedrelli et al. (2015)

report that the number of university students with mental health problems has steadily increased, particularly among those who experience symptoms of depression.

The consequences of mental health problems for college students are apparent both academically and in other domains (Hunt & Eisenberg, 2010). Bruffaerts et al. (2018) found that a diagnosis of either depression or anxiety disorder among college students was associated with lower GPA and higher probability of dropping out. Storrie et al. (2010) found 53% of college students with diagnosed mental health problems displayed decreased emotional and behavioral relations with peers, and 31% engaged in social isolation. These students also reported increased conflict with others. Given the global prevalence and burden of mental illness, there is a need to address variables that may influence mental health treatment among those who endorse symptoms of stress, anxiety, and depression (Woodhead et al., 2020).

The Challenges of College Counseling Centers

College campuses contain many channels through which they may be able to address mental health problems and have a positive impact on student mental health. Universities are unique in that in a single place, students are able to engage in nearly all of their activities. For instance, college campuses offer counseling centers equipped with knowledgeable and professional staff trained to provide treatment, and conduct specific mental health therapies (Blanco et al., 2008). Services offered at these counseling centers may include outreach programs, group therapy, one-on-one counseling, health education training, and other sources of support (Balon et al., 2015).

At the same time, many campus counseling centers are underequipped to address the magnitude and seriousness of students' mental illness (Pledge et al., 1998). In fact, 51% of college students with some form of mental illness reported onset prior to beginning college

(Storrie et al., 2010). In a survey of college counseling centers, 86% reported a steady increase of students arriving on campuses who are already taking prescribed psychiatric medications and 94% reported an increase in students arriving on campus with serious mental health problems (Gallagher, 2015). In a longitudinal study, Balon et al. (2015) found student visits to college counseling centers increased 40–55% over a five-year period. Of note, the most substantial increases were in visits for anxiety, stress, and depression. Despite these alarming increases, the number of new mental health professional positions in college counseling centers has not been proportional to the need (Gallagher, 2013).

The American School Counselor Association recommends a student-to-counselor ratio of 250 to 1 (Gallagher, 2013). However, according to the International Accreditation of Counseling Services (IACS), the average number of full-time equivalent mental health professionals providing services on college campuses were 6.2, and the typical student-to-counselor ratio was 1,600 to 1 (Gallagher, 2013). IACS suggests that there are likely consequences when this ratio increases, such as longer waiting lists, especially given that many students qualify for mental health services. As a result, counselors must address and offer services to students with more severe psychological problems first. Further, liability increases for the staff and the university more broadly with delays in treatment and so forth. Moreover, the difficulty in treating students with mental health concerns may have negative implications for student academic success and may impact the university as a whole (Boyd et al., 2003).

There are additional challenges by students who seek mental health counseling on campus. Mental health professionals contend that providing consistent care for college students is difficult due to holiday and summer breaks (Blanco et al., 2008). While away from campus, students may not receive necessary treatment which may delay their treatment progress. Further,

many college students must rely solely on mental health services offered on campuses, and most of these counseling centers are limited in the number of sessions they can provide (Blanco et al., 2008).

Utilization of Mental Health Services

In the face of the economic and staffing challenges, mental health professionals are also concerned that many students who experience mental health symptoms who may benefit from counseling, do not seek help (Oswalt et al., 2020). Among a national sample of college students between the years of 2009-2015, the diagnosis/treatment rose to 15% for anxiety disorders and 12% for depression (Oswalt et al., 2020). Yet it is estimated that only 10% of all U.S college students use campus mental health facilities each year (Rosenthal & Wilson, 2008). In the Oswalt et al. (2020) sample, 50-80% of students reported that they were diagnosed with a mental health problem but never received treatment.

In a more comprehensive review, the American College Health Association (ACHA) administers the National College Health Assessment (NCHA) annually, which includes a comprehensive section devoted to mental health. The survey consists of data from the directors of 575 U.S college counseling centers and is chiefly used to evaluate the needs of universities and centers across the country (Gallagher et al., 2001). The NCHA survey found that fewer than 25% of individuals with a mental health problem sought treatment in general the year before, and only a handful of students with psychiatric needs brought their concerns to the attention of professionals within their college-based systems of care (Balon et al., 2015). Further, the NCHA survey noted that 125 of the counseling centers surveyed reported at least one student suicide in the year prior to the survey. Among those who died by suicide, 61% had been diagnosed with

major depression. This same study found that 80% of the college students who died by suicide the year before the study had no contact with on-campus counseling services (Gallagher, 2015).

Similar to the NCHA, the National Alliance on Mental Illness (NAMI) surveyed college students living with mental health conditions. Results demonstrated that almost half of college students with mental health problems who dropped out of college did not seek or utilize mental health services and supports on campus while students (Gruttadaro & Crudo, 2012). The NAMI survey found the top five reasons as to why students do not disclose a mental health condition: (1) they fear the impact disclosing would have on how other students, faculty and staff perceive them; (2) there is no opportunity to disclose; (3) the diagnosis does not impact academic performance; (4) they do not know that disclosing could help secure accommodations; and (5) they do not trust that their medical information will remain confidential (Gruttadaro & Crudo, 2012). The NAMI findings also note that 35% of college students with a diagnosis responded that their college did not know of their mental health problems. Both the NCHA and NAMI surveys verify that prevalence rates are underrepresented, as significantly more students who experience mental health problems do not choose to seek help on campus. This begs the question, why are students so hesitant to seek mental health services?

Various theoretical frameworks have been applied to understand college students' reluctance to seek services, considering the magnitude and consequences of mental health problems. In particular, behavior change theories have been applied to the field of mental health and are often used to interpret health behaviors. For example, behavioral theories often drive specific mental health intervention strategies used to promote health behavior change (Gwaltney et al., 2009). The present study utilized two behavior change theories and related constructs to describe college students' willingness to engage in mental health services.

CHAPTER II

BACKGROUND

Self Efficacy

Social cognitive theory serves as a prominent theoretical foundation for explaining behavioral change (Clark et al., 2014). The construct of self-efficacy (SE) is a central construct in Bandura's (1986) Social Cognitive Theory (SCT) and has been related to change in mental health behaviors. General self-efficacy (GSE) has been applied to a range of disciplines as it refers to a personal judgment of how well one can execute courses of action required to deal with prospective situations (Bandura, 1977). This concept reflects confidence in the ability to exert control over one's own motivation, behavior, and surrounding environment (Bandura, 1977). Research has consistently recognized that a strong sense of self-efficacy fosters interest and engagement in activities (Bandura, 1997). Self-efficacy beliefs can be high or low, and when individuals feel efficacious, they interpret potentially threatening expectations as manageable challenges and feel less stress (Bavojdan et al., 2011).

Self-efficacy was first introduced into social cognitive theory to address behaviors in the context of behavior modification (Bandura, 1977). Similar to the clinical strategy of successive approximation to the desired goal, a behavior is broken down into its successive elements, and self-efficacy is analyzed in terms of perceived ability to perform each step in the sequence (Azjen, 2002). Not only can perceived self-efficacy have directive influence on choice of activities and settings, but it can affect coping efforts through expectations of eventual success (Bandura, 1977). Efficacy expectations determine how much effort an individual will expend and how long they will persist in the face of obstacles and aversive experiences (Bandura, 1977).

The construct of self-efficacy has been particularly relevant to the field of health education (Strecher et al., 1986). Self-efficacy is often used to predict specific health behaviors and determine whether health behavior change will be initiated (Bresó et al. 2011). According to Bandura's self-efficacy framework displayed in *Figure 1*, behavior change and maintenance are a function of (1) expectations about the outcomes that will result from one's engaging in the behavior; and (2) expectations about one's ability to engage in the behavior. Outcome expectations consist of beliefs about whether a behavior will lead to given outcomes, whereas efficacy expectations consist of beliefs about how capable one is of performing the behavior that leads to those outcomes. It should be emphasized that both outcome and efficacy expectations reflect a person's beliefs about capabilities and the behavior-outcome link. As a result, it is these perceptions, not necessarily true capabilities, that influence behavior. It is also important to understand that the concept of self-efficacy relates to beliefs of capabilities of performing specific behaviors; self-efficacy does not refer to a personality characteristic or a trait that operates separately from contextual factors. Therefore, it is only suitable to characterize a person as having high or low self-efficacy in reference to the specific health behavior and circumstance with which self-efficacy is associated.

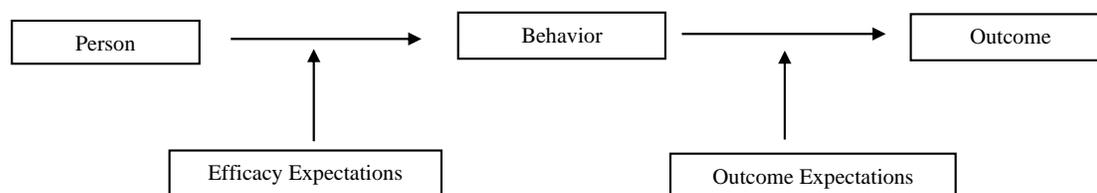


Figure 1. This figure demonstrates the construct of self-efficacy (Bandura, 1977).

Results of current studies also indicate that self-efficacy is a valuable and useful construct for exploring successful change in addictive behaviors (DiClemente, 1986). In particular, self-efficacy has been employed to understand the cessation, modification, and maintenance of these behaviors. However, most of the past self-efficacy research has focused exclusively on behaviors related to physical health such as: cigarette smoking, contraceptive use, and exercise (Baldwin et al., 2006; McAuley, 1993; Olander et al., 2013). In one of these studies which utilized a formal exercise program among a group of adults, self-efficacy significantly predicted exercise behavior at follow-up, when controlling for biological and behavioral influences (McAuley, 1993). Specifically, efficacy cognitions were shown to be significant predictors of exercise frequency and intensity over the first three months of the exercise program. Likewise, self-efficacy is assumed to play a central role in smoking cessation, as self-efficacy has been used in treating tobacco use (Gwaltney et al., 2009). In a more recent study, self-efficacy was found to enhance an individual's success in quitting tobacco use and preventing relapse (Elshatarat et al., 2016). Moreover, including self-efficacy as a component within a cognitive behavioral intervention has shown various degrees of success for treating tobacco use and nicotine dependence. Given the distinct link between self-efficacy and physical health behaviors, there is a need to examine the utility of this construct for engagement in mental health treatment seeking as well.

Theory of Planned Behavior

The theory of planned behavior (TPB; Ajzen, 1985, 1987) may also be used to explain willingness to engage in mental health services (see Figure 2). TPB has emerged as one of the most influential and popular conceptual frameworks for the study of human action (Ajzen, 2002). The theory of planned behavior postulates that behaviors are a function of information and beliefs persons have about the behavior (Aegisdottir & Gerstein, 2009). TPB is an extension

of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and includes Bandura's concept of self-efficacy described at length above. However, the theory of planned behavior places the construct of self-efficacy within a more general framework of the relations among beliefs, attitudes, intentions, and behavior (Ajzen, 1991).

As such, Ajzen uses the term perceived behavior control in place of self-efficacy. Behavioral control is similar to self-efficacy, and is defined as an individual's perception of the ease or difficulty of performing the particular behavior (Ajzen, 1987). Further, TPB explains how concepts such as attitudes, which refer to feelings about the behavior, normative beliefs, which refer to societal stigma and the labeling regarding the behavior, and perceived behavior control, influence intentions to perform a behavior. Therefore, how strong an attempt the individual makes to engage in the behavior and how much control that individual has over the behavior are key to whether they actually engage in the behavior (Ajzen, 1991).

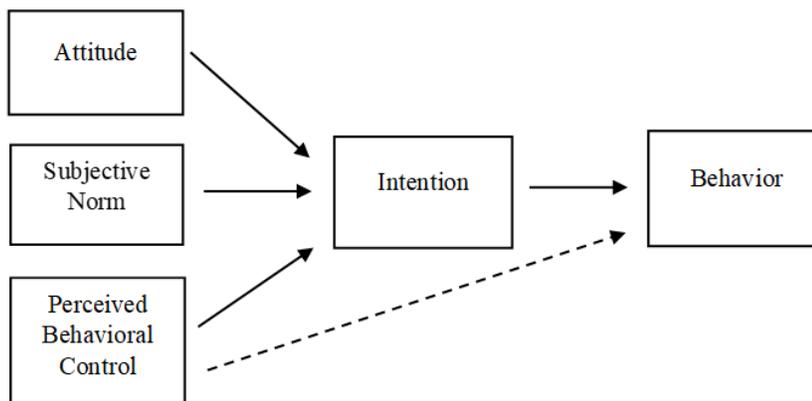


Figure 2. This figure demonstrates the theory of planned behavior (Ajzen, 1991).

According to the model, attitude or beliefs about a behavior influence an individual's intention preceding the behavior itself. Most contemporary social psychologists recognize

frameworks similar to this, and take a cognitive or information-processing approach to attitude formation (Ajzen, 1991). According to Fishbein and Ajzen (1975), individuals form beliefs about an object by associating it with certain attributes, or associating it with other objects, characteristics, or events (Ajzen, 1991). In the case of attitudes toward a behavior, each belief links the behavior to a certain outcome, or to some other attribute, such as the cost sustained by performing the behavior (Ajzen, 1991; 2002). Often these attributes linked to the behavior are already valued positively or negatively, so we automatically and simultaneously acquire an attitude toward the behavior (Ajzen, 1991). In this fashion, we learn to favor behaviors we believe have largely desirable consequences and we form unfavorable attitudes toward behaviors we associate with mostly undesirable consequences (Ajzen, 1991).

The various components (i.e., intention, perception of behavioral control, attitude toward the behavior, and subjective norm) of the theory of planned behavior each reveal a different aspect of the behavior, and can serve as a point of attack in attempts to change behavior. The underlying foundation of attitude about the behavior itself provides substantive information about the cause of behavior (Ajzen, 1991). Through these components and the application of the theory of planned behavior, it is possible to learn about the unique factors that induce one person to engage in a behavior, including one's specific willingness to seek mental health counseling.

Similar to self-efficacy, TPB has been used to predict change in physical health behaviors. In one study, similar to ones mentioned above, the theory of planned behavior was used as a framework for understanding exercise adherence during rehabilitation. Hierarchical regression analyses demonstrated that attitude, subjective norm, and perceived behavioral control explained 30% of the variance in exercise intention (Blanchard et al., 2003). Furthermore, exercise intention explained 12% of the variance in exercise adherence. Another study utilizing

the theory of planned behavior surveyed college-aged smokers on the key predictive components of the theory of planned behavior. Perceived behavioral control and subjective norms were significantly related to intention to quit smoking, which suggests that the components of TPB are suitable for predicting behavior change (Lee et al., 2006).

Mental Health Self-Efficacy

General self-efficacy has been widely examined alongside particular health behaviors; however, there is a lack in current research to identify self-efficacy in relation to college students' mental health. The term now known as mental health self-efficacy (MHSE) is suggested as a specific type of self-efficacy referring to behaviors influencing mental health outcomes. Although research with mental health self-efficacy has just begun, results are promising and warrant further exploration. Mental health self-efficacy has been used as a component of interventions and university health programs for students across the country. One study found that engagement and performance increased with participants who were engaged in a cognitive-behavioral intervention program to reduce stress that included self-efficacy when compared to those without a self-efficacy-based intervention program (Bresó et al. 2011). Further, participants in the self-efficacy intervention group expressed less burnout and lower levels of emotional stress when compared to the control group. In addition, Bresó et al. contend that one of the most important sources of efficacy beliefs apart from mastery experience, which refers to past success in comparable tasks, are psychological states. For this reason, it is believed that more symptoms of stress, anxiety, and depression will cause lower levels of mental health self-efficacy, illustrating a negative association.

Measures of mental health self-efficacy have recently been applied to college students expressing symptoms of stress, anxiety, and depression. Clarke et al. (2014) were the first to

apply the Mental Health Self-Efficacy Scale (MHSES) to mental health outcomes among college students. In the study, participants in the treatment group were given mobile and web interventions for mild-to-moderate depression, anxiety and stress with specific self-efficacy components. The control group also received a mobile and web intervention for mild-to-moderate depression, anxiety, and stress, but without any self-efficacy components or therapeutic strategies. Mental health self-efficacy, as determined by MHSES scores, mediated the effects of the intervention on depression, anxiety, and stress symptoms (Clarke et al., 2014). Specifically, participants in the treatment group with the self-efficacy-based intervention reported a greater decrease in symptom burden. This suggests that incorporating self-efficacy into treatment approaches for depression, anxiety, and stress are beneficial to college students, and should also be examined in face-to-face interventions.

Jackson et al. (2007) also explored the role of self-efficacy and other factors in the health-promoting lifestyles of undergraduate students. This study used the Health Promotion Model (Pender, 1996) as a theoretical framework to explain the necessary steps to insure a positive mental health outcome. According to this model, performing health-promoting behaviors can be achieved through the direct and indirect effects of a combination of individual cognitive-perceptual factors, modifying factors, and cues to action (Pender, 2011). These factors may include personal definitions of health, health value, perceived health status, perceived control, perceived self-efficacy, perceived benefits, and perceived barriers (Jackson et al., 2007). Analyses from the study demonstrated that health self-efficacy was significantly associated with engagement in a health-promoting lifestyle. Bray et al. (2007) also conducted research which further illustrates self-efficacy theory within the context of treatment-seeking during times of stress. Researchers found that higher levels of self-efficacy were reported for individuals who

displayed a history of seeking treatment for emotional stress, compared to individuals who did not seek care when emotionally distressed. Thus, current research suggests that higher levels of self-efficacy among college students are positively associated with help-seeking. Based on previous research, it was believed that higher self-efficacy would cause greater willingness to engage in mental health treatment, and a positive association would be illustrated.

Willingness to Engage in Mental Health Services

Much of the research surrounding mental health behaviors has been conducted to understand the utilization of mental health services. As stated, the factor most often investigated and associated with willingness to seek psychological services is an individual's attitude toward seeking psychological services (Aegisdottir & Gerstein, 2009). Previous studies suggest that not only is willingness to seek help an attitudinal set, but it is present in varying degrees in different persons (Cohen et al., 1998). Further, the degree of willingness is largely predicative of mental health service use, such that those who are more willing are more likely to seek help, and to engage in mental health services (Segal et al., 2005)

Keith-Lucas's (1994) theory of help seeking proposes four conditions that must be fulfilled for an individual to seek help. First, the individual must acknowledge that something is so wrong that it cannot be fixed by the person's own efforts (Cohen et al., 1998). Second, the individual must have the cognitive capacity to know where and how to get help (Rickwood et al., 2005). Next, the individual must be willing to reveal their situation to another person, exposing one's vulnerability, and allow other person some measure of control over one's life (Segal et al., 2015). Finally, and arguably most importantly, the individual must be willing to change (Cohen et al., 1998). Segal et al. (2015) identified that the final component of willingness to seek help is dependent upon the previous conditions and often requires that the individual relinquish control

to the expert helper and abide by treatment recommendations. Thus, the willingness component, identified as the final condition prior to treatment-seeking, is often considered the most critical (Cohen et al., 1998).

Developing the factors associated with willingness to seek help or engage in mental health services will be important, especially to identify new means of intervention (Hunt & Eisenberg, 2010). Research has identified that self-efficacy is fundamental in promoting recovery, by increasing the likelihood that individuals with mental health problems will engage in self-help groups and treatment programming (Carpinello et al., 2000). It was also found that persons higher in self-efficacy may be more willing to seek help, and will likely take an active role in their care, including advocating for their needs (Gecas, 1989). Further, self-efficacy was reported by participants as a means of coping and buffering the side effects of stress (Carpinello et al., 2000). Therefore, mental health self-efficacy is considered a predominant component and associated with willingness to engage in mental health services.

As alluded to above, an individual's willingness to seek treatment also encompasses a number of personal and attitudinal factors. For example, willingness is influenced by concerns about discussing mental health issues with a counselor or psychologist, concerns about confidentiality, preference for trusting informal sources of support with problems, and concerns about the stigma associated with mental health treatment (Salaheddin & Mason, 2016), to name a few. The direct contact and assistance that is offered by college counseling centers involve open communication between students and mental health professionals. However, self-disclosure of mental health problems to a staff member or campus official can be a difficult decision for students, particularly if they come forward without a formal diagnosis or documented support for their problem (Woodhead et al., 2020). There is a heightened risk associated with making oneself

vulnerable by disclosing personal information related to mental health problems. Researchers have begun to investigate these personal factors including stigma, and uncover reasons why college students may be so hesitant to disclose information pertaining to their mental health. Student hesitation to disclose may delay necessary intervention and present challenges to treating those with mental health problems (Woodhead et al., 2020).

In theory, stigma is often broken down between public stigma and self-stigma. While public stigma refers to the “endorsement of prejudice and discrimination toward people with mental illness from the general population,” self-stigma is derived from “people with mental illness who internalize stigma, and thus experience diminished self-esteem and self-efficacy” (Corrigan & Watson, 2002). This occurs when an individual identifies himself with the stigmatized group and applies corresponding stereotypes and prejudices to the self (Eisenberg et al., 2009). Self-stigma is also a key to attitudes and intentions to seeking counseling (Bathje & Pryor, 2011) and college students are likely to weigh the costs and benefits of seeking help before they may choose to come forward (Oswalt et al., 2020).

It is recognized that the decision to disclose and act upon mental health concerns is complex and may be influenced by the reaction and actions taken by faculty and staff (Woodhead et al., 2020). In a study conducted by Salzer et al. (2008), students were instructed to provide reasons why they may be unlikely to report mental health problem. They found 56% of participants reported feeling embarrassed about disclosing their problems to faculty and similarly, 56% of those surveyed also reported a fear of being stigmatized by faculty. Other concerns expressed by 42% of surveyed students include a fear of being stigmatized by peers and worries of a lack in cooperation from faculty (Woodhead et al., 2020). Self-stigma is now considered a key factor associated with mental health problems that may impede utilization of

mental health services (Hogan, 2003). Given the above concerns, and apparent influence of self-stigma, the willingness measure that will be examined in this study, the Beliefs About Psychological Services Scale (BAPS; Ægisdóttir, S., & Einarsdóttir, S. 2012) was selected as it encompasses Stigma Tolerance. Given previous research, it was hypothesized that the relationship between mental health problems and willingness exists through mental health self-efficacy. Therefore, it was hypothesized that mental health self-efficacy would mediate the association between mental health symptoms and willingness to engage in mental health services.

Other Variables that May Contribute to Willingness to Engage in Mental Health Services

There were additional variables and information collected in this study which may be associated with willingness to engage in mental health services but were not included as predictors. These variables of interest were presented solely to collect supplementary data from participants and will be utilized in follow-up research. For example, the survey included questions to identify previous or current experience with off-campus mental health services. The survey also included information to identify the presence of one or more mental health diagnoses and the healthcare professional who provided the diagnosis. Additionally, the survey included questions to address whether participants felt that they would benefit from on-campus mental health services. Lastly, the survey asked participants to identify the location of the Office of Counseling Services on campus. As mentioned, data from these questions were collected exclusively as variables of interest to be utilized in future post-hoc analyses.

COVID-19

Given the timing of the study and recent global events, it was necessary to recognize the potential impact of COVID-19. The study was designed prior to the initiation of the pandemic;

however, data were collected during the first semester that university operations were back in session following COVID-19 restrictions. Therefore, survey questions were presented to identify students who either lived completely on-campus, lived off-campus and commuted to campus for classes, and those who lived off-campus and took classes exclusively online due to COVID-19. Further, survey questions identified the various types of courses offered, either in-person, online, or a mixture of both. Participants were also asked if their decisions to enroll in those type of courses were due to concerns about COVID-19. Lastly, a few questions were recognized in the survey to address participants' personal mental health related to COVID-19. All the above-mentioned variables related to COVID-19 were not included as predictors or covariates in the present model but will be utilized in follow-up research.

Purpose of the Study

The purpose of the study was to address the relationship between mental health symptoms (i.e., depression, anxiety, and stress) and willingness to engage in mental health services. First, it was hypothesized that higher levels of mental health symptoms would be associated with lower levels of mental health self-efficacy. Second, it was hypothesized that mental health self-efficacy scores would be positively associated with willingness to engage in mental health services. Lastly, it was hypothesized that mental health self-efficacy would mediate the association between symptoms of depression, anxiety, and stress and willingness to engage in mental health services.

CHAPTER III

METHOD

Participants and Recruitment

Participants consisted of 185 first-year freshman students between the ages of 18-25 enrolled at a large southeastern university. The sample included both students who resided on campus and commuters, all of whom recently transitioned to college. All students had access to on-campus counseling centers and other mental health resources at the time of the study. The average age was 19.29 years old ($SD = 4.00$). Most participants were female ($n = 136$; 73.5%) and White ($n = 72$, 38.9%), followed by Black/African-American ($n = 69$, 37.3%), two or more races ($n = 15$, 8.1%), Asian ($n = 13$, 7.0%), Hispanic ($n = 13$, 7.0%), and Other ($n = 1$, 0.5%). Most participants were full-time ($n = 175$, 94.6%) and first semester freshman ($n = 174$, 94.1%). Additional sample demographic information can be found in Table 1. Eligibility criteria included that the participant was 18 years or older, a first-year student, and had no previous or current experience with on-campus mental health services.

Participants were recruited by both the Registrar's office and an online psychology research pool (SONA) in which the participants were enrolled in psychology courses at the university. As stated, participants were asked to provide information pertaining to their own personal mental health symptoms and beliefs about treatment-seeking. The self-report method was selected because it is suited to recognize concepts such as mental health self-efficacy and willingness to seek treatment. According to theory, these concepts involve judgments about one's ability (Bandura, 1977) and a decision-making process that can be measured by survey methods. The study followed a cross-sectional approach as it involved groups of participants who differ in the target variables but may share specific mental health symptoms.

Table 1.

Sample Demographics

Characteristic	N(%)
Gender	
Male	44(23.8)
Female	136(73.5)
Transgender	3(1.6)
Other	2(1.1)
Race/Ethnicity	
White	72(38.9)
Black/African-American	69(37.3)
Asian	13(7.0)
Hispanic	13(7.0)
Two or more races	15(8.1)
Other	1(.5)
Missing	2(1)
Enrollment Status	
Part-time	10(5.4)
Full-time	175(94.6)
Semester Status	
First semester	174(94.1)
Second semester	11(5.9)
Student Location Status	
Off-campus student/commuter	48(25.9)
Off-campus student/online learner	66(35.7)
On-campus student	71(38.4)
Course Type	
All online classes	76(41.1)
Some online/some in-person classes	109(58.9)

Procedure

Data collection did not occur until human subjects' approval was obtained. The study was conducted during the Fall 2020 semester. The investigator worked with the Office of Counseling Services who served as a consultant to this project. A campus-wide anonymous survey link created in Qualtrics was sent via email to all university freshmen. This e-mail was sent from the Registrar's office. Data were also collected through an online psychology research pool (SONA). First-year freshmen were selected as the targeted population given that they represent the emerging adulthood developmental age range, had recently transitioned to college, had access to on-campus mental health resources, and were unlikely to have previously utilized on-campus mental health services.

Participants were sent the study survey link in the email. When participants clicked on the link, there were a series of Yes/No screening questions to determine eligibility. First, participants were asked to verify their status as a freshman (first-year student) enrolled at the university. If participants responded negatively, they were re-directed to a separate window which thanked them and explained that they were not eligible for the study. Participants who endorsed that they were freshmen, were asked whether they had ever received or were currently receiving mental health services from an ODU mental health professional. As stated, the study was designed to obtain responses from college students with no previous experience with on-campus mental health services. Therefore, participants who responded "Yes" to either of these prompts were re-directed to a separate window which thanked them and explained that they were not eligible for the study. Participants who were re-directed to the separate window were also notified that they were unable to receive research credit. Lastly, data from 5 participants with

previous or current experience with on-campus mental health services were deleted prior to analyses.

Once eligibility was determined following the screening questions, potential participants read the notification statement describing the purpose of the study, information about their rights as participants, and contact information for the researchers. Participants then clicked “I read the notification statement” and “Yes, I wish to participate” prior to starting the survey. At the bottom of the email, a link was provided to redirect participants to a separate window containing the survey. The survey included empirical measures to identify mental health problems, mental health self-efficacy, and willingness to engage in mental health services described below.

Measures

Mental Health Problems. The *Depression, Anxiety, and Stress Scales* (DASS-21; Lovibond & Lovibond, 1995) is a shortened version of the DASS-42 (Lovibond & Lovibond, 1995) that assesses 21 self-administered negative emotional symptoms (e.g., depression, 7 items; stress, 7 items; and anxiety, 7 items). The depression subscale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. Sample items are “I felt life was meaningless” and “I couldn’t seem to experience any positive feeling at all”. The anxiety subscale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. Sample items are “I felt I was close to panic” and “I felt scared without any good reason”. The stress subscale is sensitive to levels of chronic non-specific arousal. This subscale also measures difficulty relaxing, nervous arousal, being easily agitated, irritable, and impatient. Sample items are “I was worried about situations in which I might panic and make a fool of myself” and “I found it difficult to relax.” Item scores are summed for each subscale to yield a total subscale score. For the depression

subscale, scores range from 0-9; scores above 10 met the clinical cut-off for depression. For the anxiety subscale, normal scores range between 0-7, whereas pathological scores range from 8 to 20. Finally, for the stress subscale, normal scores range from 0-14, whereas scores above 15 suggest levels that are indicative of a stress disorder (Lovibond & Lovibond, 1995). In the present study, items were summed from all three subscales so that each participant was assigned a total DASS-21 score. The sample had an average score of 33.15 ($SD = 26.28$). Cronbach's alpha for the DASS-21 is reported in Table 2.

Mental Health Self-Efficacy. The *Mental Health Self-Efficacy Scale* (MHSES; Clarke et al., 2014) is 6-item self-report measure developed according to Bandura's guidelines for constructing self-efficacy questionnaires (Bandura, 2006). In order to develop the MHSES, Clarke et al. (2015) originally developed a cluster of items to assess self-efficacy related to one's capability to perform behaviors related to mental health self-care. After agreement among the researchers, the MHSES was reduced to 6 final items (Clarke et al., 2014). The items are structured first with: "How confident are you that you..." and followed by the six items presented as statements. Sample items are "You will be able to effectively manage any stress, anxiety or depression that you do experience" and "You can keep your stress, anxiety or depression from interfering with the things that you want to do." Participants were instructed to rate each statement on a 10-point Likert scale ranging from 1 ("Not at all confident") to 10 ("Completely confident"). In the present study, a total score was calculated with higher scores indicating higher levels of mental health self-efficacy. The sample had an average score of 21.98 ($SD = 6.07$). Cronbach's alpha for the MHSES is reported in Table 2.

Willingness to Engage in Mental Health Services. The *Beliefs About Psychological Services Scale* (BAPS; Ægisdóttir & Einarsdóttir, 2012) is an 18-item measure that assesses

attitudes toward seeking psychological help from psychologists. The proposed study used a modified version of the BAPS so that the word “psychologist” was displayed as “psychologist/counselor” when presented to the participants. This modification was made given that the term “counselor” is the general term used across college campuses to classify the mental health professionals that are available to college students. The scale was derived from the theory of planned behavior (TPB; Ajzen, 1985, 1987). The measure includes statements regarding psychologists’ characteristics and individuals’ perceived outcome from psychotherapy, labeling (negative views) and stigma related to seeking psychological help, and the likelihood of engaging in psychotherapy. Sample items include “I would be willing to confide my intimate concerns to a psychologist/counselor” and “Having received help from a psychologist/counselor stigmatizes a person’s life.” The BAPS consists of three subscales: Intent, Stigma Tolerance, and Expertness (Ægisdóttir, S., & Einarsdóttir, S. 2012). In the present study, a few items across the subscales were reverse scored prior to calculating a total score. Higher total scores reflected more positive attitudes towards seeking psychological help. The sample had an average score of 69.46 ($SD = 11.94$). Cronbach’s alpha for the BAPS is reported in Table 2.

Demographics. To avoid the priming effect and the potential that COVID-19 related questions may have influenced responses on the survey measures, specifically pertaining to mental health symptoms, demographic items were presented at the end. The demographic questionnaire assessed age, self-identified gender, race/ethnicity, full-time/part-time student status, and first/second semester freshman status.

Additional Variables. Next, participants were administered a series of Yes/No questions to address potential variables of interest, and to address the influence of COVID-19. These questions were not directly analyzed in the model but will be utilized in follow-up research.

First, participants were asked to select their status as a student by selecting either on-campus, off-campus/commuter, or off-campus/online learner. Participants were asked to select the type of courses that they are enrolled in, either all in-person, all online, or some online/some in-person. If participants responded that they were enrolled in either all online or some online courses, they were asked if their decision to enroll in all/some online courses was due to concerns about COVID-19. Participants were asked if they have ever received or are currently receiving mental health services off-campus. Additionally, participants were asked whether they had been previously diagnosed with any type of mental health problem such as depression, anxiety, substance use disorder, etc. If yes, they were asked to provide the type of diagnosis/diagnoses (depression, anxiety disorder, personality disorder, etc.) and the type of mental health professional who diagnosed them (psychiatrist, psychologist, mental health professional, etc.) from a list provided. Further, participants were asked if they feel that they would benefit from on-campus mental health services. If yes, they were asked to select which services they would be most likely to utilize from list provided. Participants were asked if they were able to locate the counseling center on campus. If yes, they were asked to write-in the name of building which encompasses the counseling center. Lastly, participants were asked if they were able to locate the career development office on campus. If yes, they were asked to write-in the name of the building which encompasses the career development office.

Finally, participants were asked to indicate how much their personal mental health has been impacted by COVID-19 based on a scale provided. Participants were asked a series of questions to specifically identify symptoms of depression and anxiety related to COVID-19. These questions were selected from two questionnaires obtained from the *COVID-19 Impact on Health and Wellbeing Survey* (UT Health Rio Grande Valley, 2020) which has been utilized to

identify COVID-related depression and COVID-related anxiety/stress. Given the unprecedented event of the pandemic, these questions were included to address the potential impact of COVID-19 on personal mental health.

Power Analysis. No prior studies have examined whether mental health self-efficacy (determined by the MHSES) influenced willingness to engage in mental health services (determined by the BAPS). However, a medium expected effect size was chosen and supported by a former study which found that mental health symptoms (identified by the DASS-21 total score) had a moderate to strong negative correlation ($r = -0.31, p = 0.048$) with mental health self-efficacy (Clarke et al., 2014). A power analysis using G*Power 3.1.3 (Faul et al., 2007) revealed that a sample size of 68 is sufficient to detect a medium effect size for a mediation model with 0.8 empirical power ($\alpha = .05$). However, there are additional references (e.g., Kline, 2015) which recommend that this projected sample size be slightly larger.

More specifically, Kline (2015) suggests that a power analysis for a mediation includes a 20:1 ratio such that each parameter estimated in the model requires 20 participants. The present study had 4 parameters [1] mental health symptoms predicting willingness to engage in mental health services, [2] mental health symptoms predicting mental health self-efficacy, [3] mental health self-efficacy predicting willingness to engage in mental health services, [4] the relationship between mental health symptoms and mental health self-efficacy predicting willingness to engage in mental health services. Therefore, according to this justification, a sample size of 80 was recommended. Due to the potential for attrition, I planned to collect data from at least 100 participants; a final sample size of 185 was obtained.

CHAPTER IV

RESULTS

Missing Data and Outliers

Before analyses, missing data and outliers were addressed. The raw data included 201 eligible participants. Eleven participants were removed who elected not to participate. Four participants were deleted who did not answer the second screening question “Have you ever received mental health services from an ODU mental health professional?” One participant was deleted who did not answer the third screening question “Are you currently receiving mental health services from an ODU mental health professional?”

At this point, the remaining missing data was addressed. Three participants completed the notification statement and screening questions, however, had missing data for all 3 measures. Therefore, data from these participants were removed. One participant completed the notification statement, screening questions, and the DASS-21, but had missing data for the remaining two measures. Therefore, data were also deleted for this participant. Finally, after removing the above-mentioned cases, a final sample size of 185 was obtained for analyses.

In SPSS, univariate outliers were examined via boxplots. An asterisk on the boxplot denotes the extreme values more than 3 standard deviations from the mean. After visual inspection, there were no outliers identified. Multivariate outliers were assessed using Cook’s D, Mahalanobis distance and studentized deleted residuals. There were no outliers identified for the DASS-21, MHSES, or BAPS scores.

Preliminary Analyses

The data were inspected and statistical assumptions were checked. Using a mediation model, the data were checked for multicollinearity using the cut-off values of above 10 for VIF

and below 0.2 for tolerance (O'Brien, 2007). No values from the study variables violated the assumption of multicollinearity. Next, histograms were created to test the assumption of normality and the distribution was visually assessed; the data displayed a normal curve. The data were assessed for skewness and kurtosis using levels of ± 2 , which is considered standard cut-off points in research practice (George & Mallery, 2010). After checking the data with these cut-off points, the assumptions of skewness and kurtosis were met.

Next, to check for linearity, a scatterplot of the unstandardized residuals was created and to check for heteroscedasticity, a scatterplot was created of the standardized residuals. The scores for the DASS-21 demonstrated a linear relationship with MHSES and BAPS scores. The scores for the MHSES demonstrated a linear relationship with the BAPS scores. Additionally, independence was assessed using the Durbin-Watson test and the acceptable range of 1.5-2.5, to measure autocorrelation otherwise known as serial correlation (Field, 2009). The Durbin-Watson test indicated that this assumption was not violated.

Lastly, the data were checked to ensure that there was no error in measuring the variables. All three of the questionnaires have been used in previously research and have demonstrated acceptable alphas. In the present study, Cronbach's alphas were tested for all three of the measures to see if the scores had good reliability with the specific sample. All alpha values were above .70 which demonstrated acceptable reliability (Cortina, 1993). Cronbach's alphas are shown in Table 2.

Table 2.

Internal Consistency of Predictor Variables

Variable	Cronbach's Alpha
Mental Health Problems	.94
Mental Health Self-Efficacy	.90
Willingness to Engage in Mental Health Services	.82

Secondary Analyses

Once the scores for each of the measures were calculated and inspected, and transformations were conducted as appropriate, a series of Pearson correlations were conducted between scores on the DASS-21, MHSES, and BAPS. As indicated in Table 3, mental health problems were significantly and negatively correlated with mental health self-efficacy ($r = -.573$). However, mental health problems were not significantly correlated with beliefs about psychological services ($r = -.011$). Additionally, the negative correlation between mental health self-efficacy and beliefs about psychological services ($r = -.091$) was not statistically significant.

To examine the relationship between mental health problems, mental health self-efficacy and willingness to engage in mental health services, a mediation analysis was conducted using model 4 within PROCESS Version 3.4 (Hayes, 2017) in SPSS. Regression coefficients were analyzed to determine indirect and direct effects from the model. The relationship between mental health problems and mental health self-efficacy was significant ($\beta = -.573, p = .000$), indicating a direct effect. The relationship between mental health problems and willingness to engage in mental health services was not significant ($\beta = -.145, p = .296$), indicating that there was no direct effect. Lastly, the relationship between mental health self-efficacy and willingness to engage in mental health services was not significant ($\beta = -.094, p = .108$). There was no indirect effect of mental health problems on willingness to engage in mental health services through the association of mental health self-efficacy. Therefore, the model did not demonstrate partial mediation. *Figure 3* depicts the results of the mediation analysis.

	1	2	3
1. Mental Health Problems	---	-.573**	-.011
2. Mental Health Self-Efficacy		---	-.091
3. Willingness to Engage in Mental Health Services			---

Table 3.

Bivariate Correlations and Descriptive Statistics Among Study Variables

Note. ** $p < .01$.

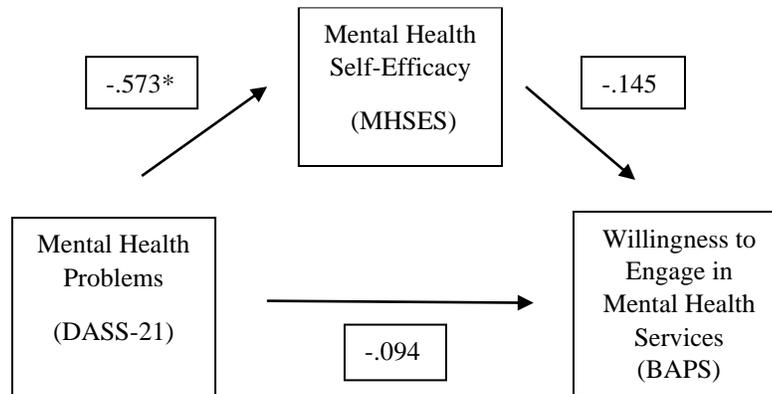


Figure 3. This figure depicts the partial mediation model that was tested in the present study with the significant regression coefficient indicated.

CHAPTER V

DISCUSSION

The purpose of the present study was to investigate the relationship between mental health problems, mental health self-efficacy, and willingness to engage in mental health services. It was theorized that college students' self-efficacy may influence mental health outcomes by impacting an individual's decision to change their behavior and execute a course of action (Bresó et al., 2011). Further, self-efficacy may influence the degree of willingness that an individual possesses, such that those who are more willing are more likely to follow through and seek mental health treatment (Segal et al., 2005). In the present study, it was predicted that those who report greater mental health problems would also report lower levels of mental health self-efficacy. Additionally, it was predicted that those who reported higher levels mental health self-efficacy would report greater willingness to engage in mental health services. Lastly, it was predicted that mental health self-efficacy would mediate the relationship between mental health problems and willingness to engage in mental health services.

The results indicated that mental health problems were significantly and negatively associated with mental health self-efficacy. Thus, participants who reported greater mental health problems reported lower levels of mental health self-efficacy. According to theory, self-efficacy beliefs can be high or low, and when individuals feel less efficacious, they interpret potentially threatening expectations as unmanageable and feel even more stress (Bavojdán et al., 2011). Based on these assumptions, it was theorized that participants with symptoms of mental health problems are increasingly at risk for lower levels of self-efficacy. In the present study, the negative relationship between mental health problems and mental health self-efficacy demonstrates that students with greater mental health problems are less likely to report mental

health self-efficacy. Thus, individuals with mental health problems may feel additional distress and believe that their current mental health problems are uncontrollable.

This finding is especially important considering the level of mental health symptoms reported in the larger population of college students and in the present sample. Twenty percent of U.S college students are diagnosed each year with a mental health problem including depression, anxiety, and stress (Blanco et al., 2008). In the present study, the DASS-21 was used to identify the incidence of these specific mental health problems, which can be broken down into subscale scores for further analysis. The average participant score for the depression subscale was 11.05, which exceeds the DASS-21 cut-off for depression set at 10 (Lovibond & Lovibond, 1995). Similarly, the average participant score for the anxiety subscale was 9.08, which exceeds the DASS-21 cut-off for anxiety set at 8 (Lovibond & Lovibond, 1995). Lastly, the average participant score for the stress subscale was 13.02, which exceeds the DASS-21 cut-off for severe stress set at 13 (Lovibond & Lovibond, 1995). The sample demonstrated levels of depression and anxiety, consistent with meaningful mental health problems.

Given the high levels of mental health symptoms reported in the current study and the negative association between mental health symptoms and mental health self-efficacy, these findings highlight the concerning presence of mental health problems among college students, and the need for service reform at the college level. For example, offering additional on-campus screening opportunities for students with mental health symptoms to recognize mental health problems before they become debilitating. Additionally, it may be beneficial to increase on-campus mental health outreach and intervention programs to decrease feelings of distress among students with mental health problems and improve levels of mental health self-efficacy. Further, given the number of students who were off-campus or learning remotely over the course of the

study, it would be beneficial to increase online prevention programs and adjust the university service delivery approach. Globally, universities should continue to offer telehealth options to students particularly during the COVID-19 pandemic. Further, it is possible that COVID-19 will have a lasting change to higher education as some students will continue to take online courses. In the future, universities should continue to offer this option for students, especially as some students may prefer the greater privacy that telehealth may provide. Doing this would likely increase individual feelings of mental health self-efficacy and promote treatment-seeking among students with mental health problems.

Second, it was predicted that those who reported higher mental health self-efficacy would report greater willingness to engage in mental health services. However, mental health self-efficacy was not significantly associated with willingness to engage in mental health services. Therefore, mental health self-efficacy did not predict whether students were more willing to engage in mental health services. Although the construct of mental health self-efficacy may be important, this finding suggests mental health self-efficacy may not predict willingness to seek mental health services directly. It may be beneficial to examine mental health self-efficacy further and to determine other ways in which mental health self-efficacy may influence decisions to engage in mental health services.

Third, it was predicted that mental health self-efficacy would mediate the relationship between mental health problems and willingness to engage in mental health services. Mental health self-efficacy did not mediate the relationship between mental health problems and willingness to engage in mental health services. Therefore, the relationship between mental health problems and willingness to engage in mental health services cannot be explained by mental health self-efficacy. These findings suggest that there may be other factors which may

mediate the relationship between college students' mental health problems and willingness to engage in mental health services. For example, knowledge of the mental health services offered on campus, access to on-campus mental health services, and the stigma associated with seeking treatment, may serve as significant predictors of willingness to engage in mental health services. It may be beneficial to examine these potential predictors further, to determine if they serve as mediators by influencing college students' willingness to engage in mental health services.

Lastly, it is important to recognize the scope of mental health self-efficacy as a construct. In the present study, mental health self-efficacy was measured using the Mental Health Self-Efficacy scale (MHSES; Clarke et al., 2014). This measure is novel and has only been utilized in a handful of previous studies. In addition, the measure contains 6 items, which are structured broadly and allows room for individual interpretation. For example, the item "You can keep your stress, anxiety, or depression from interfering with the things that you want to do?" may be understood differently by participants. Students may have responded with confidence that they were able to control these symptoms on their own without the help of a mental health professional, thus likely influencing willingness to seek services. In turn, this may have impacted data collection for the variable of mental health self-efficacy associated with treatment-seeking. In the future, it would be beneficial to utilize a more comprehensive measure of self-efficacy with specific mental health outcomes. Doing this would not only reduce participant misunderstanding of the survey items but also isolate the construct of self-efficacy specifically as it pertains to willingness to engage in mental health services.

Limitations

There are a few limitations recognized with the present study. Given that the design utilized a cross-sectional approach, causality cannot be inferred. It would be preferred to have a

longitudinal design to be better able to make causal inferences. Mental health symptoms are ongoing and increasingly susceptible to change over time. It has also been recognized that self-efficacy is context-specific and may change within relatively short periods of time (Bandura, 1997). Therefore, both mental health problems and mental health self-efficacy may not be related to an independent personality trait but rather, largely influenced by individual and situational factors. As a result, it is difficult to capture the variation of these variables within a one-time data collection period.

Additionally, as mentioned, the unprecedented presence of COVID-19 may have influenced the findings of the present study. The survey was during Fall 2020, shortly after restrictions were placed on the participating university which significantly altered the campus environment. For example, students were subject to stay-at-home orders and instructed to follow CDC guidelines. Most of the students in the sample reported that they were taking classes completely online, or in a hybrid format and were forced to adjust to a new learning format. Due to this transition, and the presence of COVID-19 as a severe global health threat, it is likely that students had experienced heightened mental health symptoms. Specifically, it is possible that COVID-19 may have exacerbated symptoms of depression, anxiety, and stress. It is also likely that COVID-19 may have impacted personal feelings of mental health self-efficacy and willingness to engage in mental health services. Students may have been less likely to express mental health self-efficacy or less likely to seek treatment, due to the influence of COVID-19.

Future Directions

The results from the present study warrant further research on college students' mental health. Specifically, it is imperative to identify factors that influence students' willingness to engage in mental health services. It is equally as important to investigate the construct of mental

health self-efficacy which is a relatively new term that has only recently been applied to mental health research.

Additionally, it is vital to identify additional factors which may influence college students' treatment-seeking. It is important to identify additional factors which may serve as mediators between mental health symptoms and willingness to seek services. It is likely that future research would unveil underlying factors that hinder college students' access to mental health services and what prevents them from seeking treatment.

The present survey obtained additional demographical data from participants such as gender and race/ethnicity which may be utilized in future analyses, to determine if these variables are significant predictors influencing willingness to seek mental health services. Further, the survey included specific questions such as "Do you feel that you would benefit from on-campus mental health services?" and "Are you able to locate the Office of Counseling Services on campus?" These questions may be included as variables and examined as potential predictors in follow-up analyses. As a result, the present study offers an abundance of alternate research paths and prospective models which are intended to be explored in future research.

CHAPTER VI

CONCLUSION

This study explored the relations between mental health symptoms, mental health self-efficacy, and willingness to engage in mental health services. Specifically, this study examined whether mental health self-efficacy mediated the relation between mental health symptoms and willingness to engage in mental health services. Overall, mental health problems were significantly and negatively related to mental health self-efficacy. However, mental health self-efficacy was not significantly related to willingness to seek mental health services, and findings were not consistent with a mediation model. Future research should examine mental health self-efficacy further and investigate additional factors which may influence college students' willingness to seek mental health services and decisions to seek treatment.

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APPENDIX A
SCREENING QUESTIONS

Please indicate your response by circling yes/no from the following:

1. Are you currently a freshman (first-year student) enrolled at Old Dominion University?
Yes No

2. Have you EVER RECEIVED mental health services from an ODU mental health professional?
Yes No

3. Are you CURRENTLY RECEIVING mental health services from an ODU mental health professional?
Yes No

APPENDIX B

MENTAL HEALTH SYMPTOMS

The Depression, Anxiety, and Stress Scales (DASS-21)

Please read each statement and circle a number 0,1,2, or 3 which indicates how much the statement applied to you over the **past week**.

The rating scale is as follows:

- 0 Did not apply to me at all
 - 1 Applied to me to some degree, or some of the time
 - 2 Applied to me to a considerable degree or a good part of time
 - 3 Applied to me very much or most of the time
-
- 1. I found it hard to wind down
 - 2. I was aware of dryness in my mouth
 - 3. I couldn't seem to experience any positive feeling at all
 - 4. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
 - 5. I found it difficult to work up the initiative to do things
 - 6. I tended to over-react to situations
 - 7. I experienced trembling (e.g in the hands)
 - 8. I felt that I was using a lot of nervous energy
 - 9. I was worried about situations in which I might panic and make a fool of myself
 - 10. I felt that I had nothing to look forward to
 - 11. I found myself getting agitated
 - 12. I found it difficult to relax
 - 13. I felt down-hearted and blue
 - 14. I was intolerant of anything that kept me from getting on with what I was doing
 - 15. I felt I was close to panic
 - 16. I was unable to become enthusiastic about anything
 - 17. I felt I wasn't worth much as a person
 - 18. I felt that I was rather touchy
 - 19. I was aware of the action of my heart in the absence of physical exertion (e.g sense of heart race increase, heart missing a beat)
 - 20. I felt scared without any good reason
 - 21. I felt that life was meaningless

APPENDIX C

MENTAL HEALTH SELF-EFFICACY

Mental Health Self-Efficacy Scale (MHSES)

Please rate each statement on a 10-point Likert scale ranging from 1 (“Not at all confident”) to 10 (“Completely confident”).

On an average day in the next month, how **confident** are you that...

1. You can keep your stress, anxiety or depression from interfering with the things that you want to do?
2. You can do the different tasks and activities needed to manage your stress, anxiety or depression so as to reduce you need to see a doctor?
3. You can do things other than just taking medicine to reduce how much your stress, anxiety or depression affects your everyday life?
4. You can make your days at least moderately enjoyable?
5. You will have moderates amounts of time where you do not experience stress, anxiety or depression?
6. You will be able to effectively manage any stress, anxiety or depression that you do experience?

APPENDIX D

WILLINGNESS TO ENGAGE IN MENTAL HEALTH SERVICES

Beliefs About Psychological Services Scale (BAPS)-modified

Please rate the following statements using the scale provided. Place your ratings to the left of each statement by recording the number that most accurately reflects your attitudes and beliefs about seeking psychological services.

(Strong disagree) 1 – 2 – 3 – 4 – 5 – 6 (Strongly agree)

1. If a good friend asked my advice about a serious problem, I would recommend that he/she see a psychologist/counselor
2. I would be willing to confide my intimate concerns to a psychologist/counselor
3. Seeing a psychologist/counselor is helpful when you are going through a difficult time in your life
4. At some future time, I might want to see a psychologist/counselor
5. I would feel uneasy going to a psychologist/counselor because of what some people might think
6. If I believed I were having a serious problem, my first inclination would be to see a psychologist/counselor
7. Because of their training, psychologists/counselors can help you find solutions to your problems
8. Going to a psychologist/counselor means that I am a weak person
9. Psychologists/counselors are good to talk to because they do not blame you for the mistakes you have made
10. Having received help from a psychologist/counselor stigmatizes a person's life
11. There are certain problems that should not be discussed with a stranger such as a psychologist/counselor
12. I would see a psychologist/counselor if I were worried or upset for a long period of time
13. Psychologists/counselors make people feel that they cannot deal with their problems
14. It is good to talk to someone like a psychologist/counselor because everything you say is confidential
15. Talking about problems with a psychologist/counselor strikes me as a poor way to get rid of emotional conflicts

APPENDIX E

DEMOGRAPHIC QUESTIONNAIRE

1. Please provide your age: _____
2. Please indicate your gender by circling one of the following:
Male Female Transgender Other Prefer not to respond
3. Please indicate your ethnicity/race by circling one of the following:
White Black/African-American Asian Native American/Pacific Islander
Hispanic Two or more races Unknown Other
4. Please indicate if you are a full-time or part-time student by circling one of the following:
Full-time Part-time
5. Please indicate if you are a first or second semester freshman student by circling one of the following:
First semester Second semester
6. Please indicate your current student status for the current semester:
On-campus student Off-campus student/commuter Off-campus student/online learner
7. Please indicate the type of courses you are enrolled in for the current semester:
All in-person classes All online classes Some online classes/some in-person classes
 - A. If all online,
Was your decision to enroll in all online courses due to your concerns regarding COVID-19?
Yes No
 - B. If some online/some in-person classes,
Was your decision to enroll in some online courses due to your concerns regarding COVID-19?
Yes No
8. Have you EVER RECEIVED mental health services OFF-CAMPUS?
Yes No
9. Are you CURRENTLY RECEIVING mental health services OFF-CAMPUS?
Yes No
10. Have you ever been diagnosed with one or more mental health disorders?
Yes No
 - A. If yes:
Please identify the diagnosis by circling one or more from the following:
 - a. Attention-deficit/hyperactivity disorder (ADHD)
 - b. Alcohol or substance abuse disorder
 - c. Anxiety disorder (including panic disorder, obsessive-compulsive disorder, and phobias)
 - d. Depression, bipolar disorder, or other mood disorder
 - e. Dissociative disorder
 - f. Feeding or eating disorder

- g. Personality disorder
- h. Psychotic disorder (including schizophrenia)
- i. Trauma or stress-related disorder
- j. Other

Please identify who diagnosed you with the mental health diagnosis/diagnoses from the following:

- a. Physician/general health practitioner
 - b. Psychiatrist
 - c. Psychologist
 - d. School psychologist
 - e. Other mental health professional
 - f. Self-diagnosed/no formal diagnosis
11. Do you feel that you would benefit from on-campus mental health services?
Yes No
- A. If yes:
Which of the following services would you be most likely to utilize:
- a. Individual (one-on-one) counseling
 - b. Group counseling
 - c. Couples counseling
 - d. Crisis intervention
 - e. Outreach programs
 - f. Other

12. Are you able to locate the Office of Counseling Services on campus? If yes, please provide the building name in the box below:

13. Are you able to locate the Career Development Services on campus? If yes, please provide the building name in the box below:

14. On the scale provide, please indicate how COVID-19 has impacted your personal mental health:

1-----2-----3-----4-----5-----6-----7-----8-----9-----10

(has not impacted at all)

(has majorly impacted)

Related to COVID-19, over the past TWO weeks, how often have you been bothered by any of the following? (please select one response per question)

15. A. Little interest or pleasure in doing things
- ___ Not at all
 - ___ Several days
 - ___ More than half the days
 - ___ Nearly every day

B. Feeling down, depressed, or hopeless

- Not at all
- Several days
- More than half the days
- Nearly every day

C. Feeling nervous, anxious, or on edge

- Not at all
- Several days
- More than half the days
- Nearly every day

D. Not being able to stop or control worrying

- Not at all
- Several days
- More than half the days
- Nearly every day

APPENDIX F

RESOURCES FOR ASSISTANCE

If any questions left you feeling uncomfortable or upset and you would like further assistance, please contact any of the following resources.

- National Alliance on Mental Illness (NAMI):
1-800-950-NAMI (1-800-950-6264)
<https://www.nami.org/help>
- National Institute of Mental Health (NIMH):
1-866-615-6464
<https://www.nimh.nih.gov/health/find-help/index.shtml>
- Centers for Disease Control and Prevention, Division of Mental Health (CDC):
1-800-CDC-INFO (1-800-232-4636)
<https://www.cdc.gov/mentalhealth/>
- National Suicide Prevention Lifeline
1-800-273-8255
<https://suicidepreventionlifeline.org/>
- American Psychological Association:
1-800-374-2721
<https://www.apa.org/helpcenter/>
- The ODU Counseling Center is an available resource to all students.
757-683-4401
<https://www.odu.edu/counselingservices>

VITA

LEEANNA L. GOLEMBIEWSKI

2901 River Breeze Cove
Virginia Beach, VA 23452
757-604-3892

250 Mills Godwin Life Sciences Bldg
Norfolk, VA 23529
757-683-4439

Old Dominion University, Norfolk, VA
Doctor of Philosophy Health Psychology Program

August 2019-Current

University of Pittsburgh, Pittsburgh, PA
Master of Science Applied Developmental Psychology Program
Concentration: Applied Research Methods for Children and Youth Serving Organizations

May 2017

Edinboro University of Pennsylvania, Edinboro, PA
Bachelor of Science Applied Developmental Psychology Program
Research Focus: Applied Developmental Psychology/Creativity, Aesthetics & the Arts

May 2015

SELECT PRESENTATIONS:

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