NOT JUST SURVIVING BUT THRIVING:

PREDICTORS OF FLOURISHING AMONG COLLEGE STUDENTS

by

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College campuses are experiencing an increase in demands for mental health services among students (Lipson et al., 2019). Yet, emerging adults also report higher rates of well-being than older adults, complicating the understanding of college student mental health (Westerhof & Keyes, 2010). Flourishing is defined as a state of emotional, psychological, and social well-being and is considered to be on a separate continuum than mental illness (Agenor et al., 2017). Positive mental health is associated with a range of positive academic, health, and social outcomes for college students (Antaramian, 2015; Byrd & McKinney, 2012; Low, 2011). However, there is limited information regarding predictors of flourishing and the differential impact of flourishing on academic outcomes among college students. This study examined the level and prevalence of flourishing among student subgroups; proxy variables for the elements of flourishing as predictors of flourishing; and flourishing and mental illness symptoms as predictors of academic outcomes. Data from 769 students who participated in the Healthy Minds Study at a Pacific Northwest university and extant academic records were used in the analyses. A series of t-tests, analyses of variance, and chi-square tests of independence were used to explore associations between demographic indicators and flourishing. A regression model was used to determine the relationships between proxy elements and flourishing. Analyses of

variance and regression models were used to examine the associations between mental illness symptoms, flourishing, and academic outcomes. Results indicated that heterosexual students and students with higher socioeconomic status reported higher levels of flourishing and were more likely to meet the cutoff for flourishing. Among proxy variables for the elements of flourishing, sense of belonging, extracurricular involvement, and academic self-efficacy were positive predictors while psychological inflexibility and perceived stress were negative predictors of flourishing. Furthermore, term GPA did not vary based on mental health categorization nor flourishing and mental illness symptoms. However, students who were categorized as mentally unhealthy had the lowest levels of academic self-efficacy, and flourishing predicted academic self-efficacy above and beyond symptoms of anxiety and depression. Results demonstrate the need to foster mental health among college students to support successful academic outcomes.

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CHAPTER I

INTRODUCTION

The World Health Organization (WHO; 2014) defines mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community." WHO (2014) stresses the positive dimension of mental health in defining health as not only the absence of disease, but also a complete state of "physical, mental and social well-being." For postsecondary students, college experiences present opportunities for growth and well-being as well as stressors associated with increased risk of mental illness (Blanco et al., 2008).

College campuses across the United States are experiencing an increase in the prevalence of mental health challenges among enrolled students. Approximately 30% of college students reported being diagnosed or treated by a professional for a mental health condition in the past 12 months (American College Health Association, 2018). Furthermore, the prevalence of college students with lifetime mental health diagnoses increased from 22% in 2007 to 36% in 2017 (Lipson, Lattie, & Eisenberg, 2019). With increased mental health problems among college students, college counseling centers face an increased demand for services. The rate of treatment for mental health concerns on campus has nearly doubled in the past ten years, from 19% in 2007 to 34% in 2017 (Lipson et al., 2019). Students are also presenting for services with more severe psychological problems, more often, and in crises requiring immediate response (Gallagher, 2014).

Mental illness can be an important determinant of one's college experience, but it only explains one dimension of the emotional health of college students. While emerging adults tend to experience more mental illness symptoms than older adults, they also have higher rates of psychological well-being (Westerhof & Keyes, 2010). A broader perspective on college student developmental needs should include a more complete understanding of well-being, encompassing both mental illness and mental health.

Positive mental health is defined by Keyes (2003) as flourishing, or "a state in which an individual feels positive emotion toward life and is functioning well psychologically and socially" (p. 294). Flourishing students are beneficial for college campuses as they tend to be more effective learners, productive, pro-social, involved on campus, and in good health (Huppert & So, 2013; Low, 2011). Furthermore, the absence of mental illness is not necessarily synonymous with mental health, and ameliorating mental illness does not guarantee mental health. Languishing, or the absence of mental health, is more prevalent than major depression disorder (Keyes, 2003). Languishing students are described as living "hollow" or "empty" lives of "quiet despair" and have comparable impairment to that associated with a major depression (Keyes, 2003, p. 294). For example, students facing adjustment challenges and social isolation may not meet criteria for a mental health diagnosis, but nevertheless are experiencing significant psycho-social impairment and may need assistance coping with life challenges. Strategies for addressing mental health on college campuses should simultaneously target the prevention and treatment of mental illness as well as the promotion of flourishing.

Despite increasing recognition of the importance of positive mental health, practice and research across disciplines continue to prioritize mental illness rather than

well-being (Maddux, 2002; Wand, 2011). The purpose of the current study is to add to the limited research on flourishing among college student demographic groups, explore potential attributes of flourishing, and evaluate mental health and mental illness as predictors of academic achievement among college students.

Background and Rationale for Study

Prominent Models of Flourishing

The goal of positive psychology is to promote well-being by increasing flourishing, or "the optimal state of mental health" and well-being (Agenor, Conner, & Aroian, 2017, p. 915; Seligman, 2011). College students with or without mental illness symptoms may benefit from the promotion of flourishing. For college students without symptoms, flourishing can aid in the prevention of mental illness (Schotanus-Dijkstra et al., 2016b) as well as the promotion of other positive outcomes, such as academic confidence and social engagement (Antaramian, 2015; Byrd & McKinney, 2012). The promotion of flourishing on college campuses can also help students pursue their academic and career goals without interruption (Mowbray et al., 2006). Furthermore, positive psychology interventions are cost-effective for colleges and aid in retention of students (Coniglio, McLean, & Meuser, 2005; O'Keeffe, 2013; Schotanus-Dijkstra et al., 2018).

For students experiencing mental health challenges, Provencher and Keyes (2011) posit that flourishing interventions, in addition to mental illness treatment, are needed for complete mental health recovery. Research has already identified flourishing elements that aid in mental health recovery, although these elements are not usually associated with flourishing. For example, individuals recovering from mental illness tend to seek

key elements of flourishing, including engagement, positive relationships, purpose in life, and social acceptance (Provencher & Keyes, 2011). Furthermore, flourishing elements are promoted in mental health interventions, such as self-development and social involvement. While these elements are beneficial, they can be underutilized in treatment when recovery focuses narrowly on the reduction of mental illness symptoms and impairments rather than the promotion of well-being (Provencher & Keyes, 2011).

Flourishing has been conceptualized in several ways, each encompassing attributes of emotional, psychological, and social well-being. In a recent review, Agenor and colleagues (2017) identified four main conceptual frameworks for flourishing offered by Diener et al. (2010), Huppert and So (2013), Keyes (2002), and Seligman (2011). I briefly describe these four conceptualizations of flourishing.

Diener et al. (2010). According to Diener and colleagues (2010), flourishing is defined by a person's psychological (i.e., universal human needs, such as competence, relatedness, and self-acceptance) and social well-being (i.e., respect, social capital, contributing to others). Based on this conceptualization, they created the Flourishing Scale, which was initially evaluated among college students (Diener et al., 2010). The Flourishing Scale is a self-report measure of overall flourishing, measured as a unidimensional construct; it assesses self-perceived competence, engagement, optimism, purpose, relatedness, and self-esteem, and yields a single well-being score (Diener et al., 2010). Since the instrument does not assess emotional well-being, the Flourishing Scale was designed to be used with another measure to assess emotions, such as the Scale of Positive and Negative Experience (Diener et al., 2010).

Huppert and So (2013). Huppert and So (2013) describe flourishing as "the combination of feeling good and functioning effectively" (p. 838). They utilized a deductive approach to their conceptualization by examining criteria in the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) and the International Classification of Diseases (ICD) for anxiety and depression disorders, and defining the opposite of each symptom. Using this approach, they identified ten features of positive well-being: competence, emotional stability, engagement, meaning, optimism, positive emotion, positive relationships, resilience, self-esteem, and vitality (Huppert & So, 2013). This model of flourishing has been applied to populations in twenty-three European countries, and research testing this model has offered insight into cultural differences in well-being (Huppert & So, 2013).

Keyes (2002). The most cited and studied conceptualization of flourishing is the two-continua model of mental health and illness (Keyes, 2002). In this model, mental health and mental illness are on two distinct but related continua. On one end of the mental illness continuum, individuals experience symptoms fitting the diagnostic criteria for one or more mental disorders. On the other end of the mental illness continuum are individuals not experiencing symptoms fitting the diagnostic criteria for a mental disorder (Keyes, 2003). In between ends of this continuum are individuals experiencing some symptoms, but not to the level that meets criteria for a diagnosis.

On one end of the mental health continuum, flourishing is characterized by emotional, psychological, and social well-being. This includes both hedonic well-being (i.e., positive emotion) and eudemonic well-being (i.e., positive functioning; Keyes, 2002). Emotional well-being involves positive affect, happiness, and life satisfaction; psychological well-being encompasses self-acceptance, personal growth, purpose in life,

environmental mastery, autonomy, and positive relationships; and social well-being includes acceptance, actualization, contribution, coherence, and integration in social domains (Keyes, 2003). On the opposite end of the mental health continuum, Keyes (2003) defines the concept of languishing, "a state in which an individual is devoid of positive emotion toward life, [and] is not functioning well psychologically or socially" (p. 294). Individuals experiencing languishing are neither mentally ill nor mentally healthy. Rather, they lack emotional well-being. Keyes argues that languishing is a separate "disorder" that exists on the mental health continuum and is "associated with emotional distress and social impairment at levels that are comparable to the impairment associated with a major depressive episode" (Keyes, 2003, p. 294). Keyes (2002) found that individuals who were languishing were more likely to have experienced a depressive episode during the past year; however, they did not endorse many symptoms of depression (e.g., feelings of worthlessness or excessive guilt, suicidal ideation, significant weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation) and therefore did not fit the criteria for a depressive disorder.

Individuals can have complete mental health, incomplete mental health, or mental illness based on a combination of these two continua. Complete mental health is defined by a high level of flourishing and the absence of mental illness symptoms. Incomplete mental health, sometimes referred to as moderately mentally health, involves either 1) high levels of both flourishing and mental illness symptoms, or 2) low levels of both flourishing (or languishing) and mental illness symptoms. The concept of mental illness, as theorized by Keyes (2002), consists of a low level of flourishing (or high languishing) and a high level of mental illness symptoms. This conceptualization is the foundation of

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the Mental Health Continuum – Short Form (MHC-SF), a self-report measure that assesses the frequency of positive mental health symptoms related to emotional, psychological, and social well-being (Keyes, 2002). The MHC-SF is typically used with mental illness symptom screeners to better understand the relationship between flourishing and mental illness symptoms (see Keyes, 2012; Peter, Roberts, & Dengate, 2011).

Seligman (2011). In well-being theory, Seligman (2011) states that there are five predictors of flourishing outcomes that have been independently empirically supported. These are positive emotion, engagement, relationships, meaning, and achievement (PERMA; Seligman, 2011). The PERMA model of well-being has been applied to diverse populations, including college students with disabilities (Tansey et al., 2018), and predicted flourishing in longitudinal studies of college students (Coffey et al., 2016).

Overlapping Elements of Flourishing

There is substantial variation in the prevalence rates for flourishing based on the operationalization used; however, there is moderate to strong agreement on elements of flourishing across the different flourishing models (Hone et al., 2014). Among the four described prominent conceptualizations, Agenor and colleagues (2017) identified six overlapping elements that define flourishing: positive emotion, engagement, positive relationships, meaning, competence, and self-esteem. The four models described also conceptualize flourishing on a separate continuum than mental illness, with flourishing being defined by specific elements rather than the absence of mental illness. For example, students can be both flourishing and experiencing symptoms of mental illness, such as elevated depression (Low, 2011). Consistent with the four prominent models of

flourishing, for the purpose of the present study I conceptualized flourishing as consisting of the six common elements (positive emotion, engagement, positive relationships, meaning, competence, and self-esteem) and on a separate continuum than mental illness.

Well-Being Theory

The field of positive psychology emerged from Martin Seligman's 1998 Presidential Address to the American Psychological Association. In his speech, Seligman (1999) states that while psychologists have studied human adversity, "we know very little about how normal people flourish under more benign conditions" (p. 560). Thus, he launched a presidential initiative to shift the focus of the field toward positive psychology to learn how to build positive qualities. Positive psychology as a whole is the study of well-being with the goal of increasing flourishing among individuals, communities, and societies (Seligman, 2011). Seligman (2011) suggests that well-being is a multidimensional construct that cannot be measured; rather, there are measurable elements that each contribute to well-being but none alone define it. Well-Being Theory (Seligman, 2011) posits that there are five independent elements of well-being that predict flourishing: positive emotion, engagement, relationships, meaning, and achievement (PERMA). These elements are described in more detail in a later section. Each element 1) contributes to well-being, 2) is pursued for its own sake, and 3) exhibits exclusivity, or can be defined and measured independently of the other elements (Seligman, 2011). In Seligman's (2011) conceptualization and the broader literature on Well-Being Theory, the terms *well-being* and *flourishing* are used interchangeably.

In a subsequent article, Seligman (2018) argues that more work is needed in order to evaluate Well-Being Theory. Specifically, he states that PERMA is a parsimonious and

exclusive list of elements, but that it is not exhaustive. He suggests that there may be

additional elements that should be explored, such as health and responsibility (Seligman,

2018). Therefore, I add self-esteem to the PERMA elements, given that it is included in

three other prominent models of flourishing (Agenor et al., 2017). Furthermore, he

recommends comparing theories against each other to evaluate which elements are most

predictive of flourishing (Seligman, 2018). To this end, one aim of my study included

examining which elements of flourishing are most predictive of scores derived from a

measure of flourishing. I explored measures that are conceptually similar to each element

of flourishing in order to assess which were stronger predictors of flourishing among

college students.

Flourishing College Students

Based on the Flourishing Scale (Diener et al., 2010), approximately 40% of

college students are flourishing (Healthy Minds Network, 2019). The Flourishing Scale

has been utilized as a key measure in studies on the association between well-being and

health, social connectedness, social media use, and suicide-related outcomes among

college students (see Duffy et al., 2019; Vidal et al., 2020; Uysal, 2015). Several

international studies have examined the psychometric properties of the measure for use

with various populations (Silva & Caetano, 2011; Singh, Junnarkar, & Jaswal, 2016;

Sumi, 2013; Tang et al., 2014). The measure is also used as an indicator of the prevalence

of positive mental health on campuses as part of the Healthy Minds Study, a survey used

nationally by higher education institutions to gauge student mental health and related

outcomes (Healthy Minds Network, 2020). Approximately 300 higher education

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institutions and organizations have participated in the Healthy Minds Study, providing a large and diverse national dataset (Healthy Minds Network, 2020).

A Google Scholar search of research that cites the Flourishing Scale indicated that 16 articles and 2 book chapters have been published citing the measure and using Healthy Minds Study data. A closer examination of this research revealed that the studies addressed associations between flourishing and racial climate, school belonging, and suicidal behavior as well as how to use positive mental health to support health promotion efforts on college campuses (see Parr, 2020; Ross, 2015; Schoeps et al., 2019). Only one study explored differences in mental health based on demographic indicators (i.e., students of color; Lipson et al., 2018), and one study investigated associations between mental health and academic attitudes and expectations (Lipson & Eisenberg, 2018). Thus, in spite of widespread use of the FS within the Healthy Minds Study, there is a dearth of information on the prevalence of flourishing among various demographic groups on college campuses as well as the relationship between flourishing and academic outcomes among college students.

Flourishing college students are resilient, experience fulfilling relationships, and engage in meaningful and productive activities (Keyes, 2007). When students flourish, they are also less likely to have impaired academic performance (Keyes et al., 2012). Flourishing is also associated with lower levels of mental health problems. Flourishing has been associated with reduced risk of mood and anxiety disorders (Schotanus-Dijkstra et al., 2016b) as well as lower rates of substance use and suicidal behavior (Keyes et al., 2012; Parker, Banbury, & Chandler, 2018). Among adults, the combination of flourishing and the absence of mental illness has been associated with fewer health limitations of

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activities of daily living, fewer missed days of work, healthier psychosocial functioning (e.g., clear goals, high resilience, high intimacy), lower health care utilization, and decreased probability of all-cause mortality (Keyes, 2005; Keyes, 2007; Keyes & Simoes, 2012).

Given that mental health and mental illness are distinct but related, we cannot assume that treating individuals for mental illness would result in them becoming more mentally healthy. Rather, they would have diminished symptoms of mental illness. For example, in the Midlife in the United States (MIDUS) study, Keyes (2003) found that the majority of adults did not have a depressive episode within the past year, yet only 22% of adults met the criteria for flourishing. Furthermore, the approximately 20% of adults that met the criteria for languishing were more likely to have a major depressive episode; they were five times more likely than flourishing adults and two times as likely as adults with incomplete mental health to have a depressive episode within the past year (Keyes, 2003). Without also promoting mental health, individuals may not have complete mental health when they are free of clinical symptoms. In order to understand the characteristics and development of flourishing, we need to understand flourishing as a separate concept rather than the absence of mental illness. Development and implementation of interventions that promote flourishing on college campuses requires gaining a deeper understanding of its relationship to student subgroups and the college experience.

Flourishing among College Student Subgroups

There are few studies explicitly exploring college student demographic differences associated with flourishing. All studies mentioned in this section utilized the MHC-SF (Keyes, 2002) for defining flourishing cutoffs and mental health

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categorizations. Among the limited studies exploring the associations between flourishing and demographic indicators among college students, there were no significant differences based on undergraduate year (Fink, 2014) and race/ethnicity (Fink, 2014; Peter et al., 2011).

However, two recent studies using Healthy Minds Study data have found significant variation in flourishing (as measured by the Flourishing Scale) among students of various races and ethnicities. Lipson and colleagues (2018) found college students who identified as African-American, Latinx, and White reported higher levels of flourishing than their peers of other races/ethnicities, and students who identified as Asian and multiracial reported lower levels of flourishing than their peers of other races/ethnicities. In each case, those of a given racial/ethnic group were compared to all other participants combined. Overall, Asian students were the least likely to be flourishing (51%) and African-American students were the most likely to be flourishing (62%). In another study examining college students aged 18 to 26, Parr (2020) found that racial and ethnic minority students endorsed lower levels of flourishing than their White peers at ages 19, 22, 23, and 25. These studies suggest that there are substantive differences in flourishing based on race/ethnicity among college students, and these differences may be more delineated for specific age groups.

Research findings on the association between flourishing (as measured by the MHC-SF) and socioeconomic status (SES) are mixed due to the various methods used to measure the construct of SES. When parents' educational level or income was used as a proxy for SES, there were no significant differences in positive mental health, and SES was not a significant predictor of flourishing among college students (Ambler, 2006;

Fink, 2014). However, when a more subjective measure (i.e., SES status ladder) was utilized, SES was a significant and positive predictor of flourishing among college students; students who perceived themselves to have higher SES status reported higher levels of flourishing than students who perceived themselves to be of lower SES status (Peter et al., 2011).

In addition, research findings are inconsistent on whether individuals of various genders and sexual orientations experience different levels of flourishing. In studies with college students, Peter and colleagues (2011) found being female to be a significant predictor of positive mental health, while gender was not a significant predictor in a study by Fink (2014). Ambler (2006) found higher flourishing scores among females; however, the proportion of college students who met the threshold for flourishing did not differ by gender. More females than males met the threshold for flourishing in a more recent study (Schotanus-Dijkstra et al., 2016a). Additionally, Peter and colleagues (2011) found sexual orientation did not predict positive mental health, while Fink (2014) found it was a significant negative predictor. Specifically, findings from Fink's (2014) study indicated that students who identified as bisexual, gay, and lesbian reported lower levels of flourishing than students who identified as heterosexual. In a recent study utilizing Healthy Minds Study data, Parr (2020) found that sexual and gender minority students reported lower levels of flourishing across ages 18 to 26 compared to their cisgender heterosexual peers of the same age. These findings present a complicated picture on the associations between flourishing, gender, and sexual orientation as well as differences as a function of continuous measurement and cutoff scores for flourishing.

More research is needed to clarify the link between demographics and flourishing. Many important characteristics of student groups (e.g., first-generation status, international student status) were not included in the previous studies. Differences in the measurement of flourishing as a continuous variable or a cutoff score also complicates understanding of positive mental health among college student subgroups. Therefore, the present study examines differences in flourishing based on demographic indicators using two measurement methods: level and prevalence of flourishing. As research clarifies college student characteristics associated with lower levels of flourishing, college campuses may be able to target mental health promotion strategies toward subgroups of students to increase their levels of flourishing.

College Experiences Related to Flourishing

In all of the four prominent models of flourishing, the six overlapping elements that define flourishing (positive emotion, engagement, positive relationships, meaning, competence, and self-esteem) contribute to variance in flourishing, with higher levels of each element predicting a higher level of flourishing (Agenor et al., 2017). In one study confirming the factor structure of the PERMA model (Seligman, 2011), Coffey and colleagues (2016) found achievement (competence) contributed most to the model, followed by positive emotions, engagement, and relationships, in a sample of sophomore college students. Meaning was not measured in the study. This may indicate some elements of flourishing (i.e., competence) contribute to the multidimensional construct more than other elements.

Research is limited on specific college experiences related to flourishing. Studies exploring the relationship between flourishing and its specific elements among college

students are discussed in following sections. I used the following search criteria. Peer-reviewed articles were retrieved from the search engine APA PsycNET using the keywords *flourish** and *college, university*, or *higher education* in their abstract. Search engines were expanded for each of the sections below to include additional related keywords to gather more general information on each construct: *positive affect** and *positive emotion** (positive emotion); *engagement* and *flow* (engagement); *social relation** (positive relationships); *meaning in life* and *purpose in life* (meaning); *accomplishment*, *competence*, and *environmental mastery* (competence); and *self-esteem* (self-esteem). Specific attention was drawn to meta-analyses and literature reviews for summative understanding of each element of flourishing. Further research is needed to understand which of these related constructs are stronger predictors of flourishing in order to design health promotion interventions that can increase levels of positive mental health among college students.

Positive emotion. Positive emotion encompasses a range of feelings including happiness, life satisfaction, and pleasure. This element is present in all flourishing models except Diener's (2010) Flourishing Scale, which was designed to be used in conjunction with an emotional well-being measure. It is associated with several positive outcomes, including psychological resiliency, subjective well-being, and quality of life (Fredrickson, 2001, 2006). Positive emotion improves physical health outcomes, with effects including increased resilience to disease, slower chronic illness progression, reduced pain symptoms, and lower risk of mortality (Pressman, Jenkins, & Moskowitz, 2019). The experience of more positive life events is associated with an increase in the odds of flourishing, as measured by the MHC-SF (Schotanus-Dijkstra et al., 2016a).

Engagement. In positive psychology, engagement is defined as flow, a subjective experience characterized by immersion in an activity, heightened sense of control, low self-awareness, a distortion of sense of time, and intrinsic motivation (Csikszentmihalyi, 1975). Flow occurs when one loses track of time, engages in daily activities, or is interested in learning or life (Diener et al., 2010; Huppert & So, 2013; Seligman, 2011). Conditions that can facilitate the experience of flow are having a balance between perceived challenge and skill; having a clear and proximal goal; and receiving unambiguous and immediate feedback (Csikszentmihalyi, 1975). While included in three of the prominent conceptualizations of flourishing (Diener, 2010; Huppert & So, 2012; Seligman, 2011), engagement is not explicitly included in Keyes' (2002) model. However, within Keyes' (2002) model, engagement is consistent with the social coherence dimension of flourishing, which involves being "interested in society and social life" (p. 98). Flow is associated with academic performance, persistence, positive emotion, and well-being among college students (Rijavec & Ljubin Golub, 2018; Rodríguez-Ardura & Meseguer-Artola, 2017).

Other research has investigated engagement not as flow but as student engagement on campus. Antaramian (2015) found academic, faculty, intellectual, peer, and social engagement to vary based on mental health categorization, with well-adjusted students (high on well-being, low on mental illness symptoms) indicating the highest levels of engagement. However, Fink (2014) did not find individual engagement within the college environment (e.g., co-curricular involvement) to be a significant predictor of flourishing, as measured by the MHC-SF.

Positive relationships. Relationships are deemed positive when they are supportive and rewarding (Diener et al., 2010; Huppert & So, 2013; Seligman, 2011). Keyes (2007) extends this concept to include other dimensions of social well-being, such as social actualization and contribution. Social support, a key component of positive relationships, is predictive of academic, emotional, and social adjustment among college students (Awang, Kutty, & Ahmad, 2014). Furthermore, college students with low quality perceived social support have a sixfold risk of depression symptoms relative to those with high quality perceived social support (Hefner & Eisenberg, 2009). Positive social interactions can occur in-person or on social media (Zhang, 2017). A supportive college climate, the ease of the social transition to college, and a socially supportive residence hall positively predicted flourishing, as measured by MHC-SF (Ambler, 2006; Fink, 2014), and general social support was associated with higher odds of flourishing, as measured by the MHC-SF (Schotanus-Dijkstra et al., 2016a). Sense of belonging was also a positive predictor of flourishing, as measured by the MHC-SF (Fink, 2014). Finally, school belonging may be more associated with flourishing for certain demographic groups, such as sexual and gender minority college students (Parr, 2020).

Meaning. Meaning involves having a purpose in life or finding that one's life has a direction and meaning (Diener et al., 2010; Huppert & So, 2013; Keyes, 2007). The development of one's identity during emerging adulthood involves searching for a purpose in life and may heighten attempts to make meaning of life events (Steger, Oishi, & Kashdan, 2009). This is a largely subjective experience for an individual, but also involves an objective component as one engages in meaningful activities (Seligman, 2011). Meaning is characterized by three dimensions: comprehension (making sense of

one's experiences), purpose (the feeling of having and working towards a life goal), and mattering (believing that one's actions make a difference in the world; Costin & Vignoles, 2019; George & Park, 2016). The development of purpose in life can be proactive (e.g., deliberate search for meaning), reactive (e.g., transformative life event that prompts re-evaluation of priorities), or a result of social learning (e.g., mimicking observed behaviors; Kashdan & McKnight, 2009). Among college students, meaning in life is also associated with lower anxiety, depression, stress, and suicidal ideation as well as more positive adjustment to college (Dogra, Basu, & Das, 2008; Li, Wong, & Chao, 2019; Trevisan et al., 2017).

Competence. Competence has various names across models; while Diener et al. (2010) and Huppert and So (2013) use the term competence, Seligman (2011) defines this element as accomplishment and Keyes (2002) as environmental mastery. Regardless of the name, competence is defined as a sense of accomplishment, capability, or working toward goal achievement. Individuals low on this element may have difficulty managing their daily lives, feel incapable of improving their situation, and lack a sense of control over their external world (Ryff, 1995). Competence leads to positive outcomes, including motivation and performance (Cerasoli, Nicklin, & Nassrelgrgawi, 2016). Among college students, academic self-efficacy, an aspect of competence on campus, is positively associated with academic performance (Bembenutty & White, 2013; Elias & MacDonald, 2007; Honicke & Broadbent, 2016) and flourishing, as measured by the Flourishing Scale (Lipson & Eisenberg, 2018) and the MHC-SF (Fink, 2014).

Self-esteem. Global self-esteem is defined as "a psychological state of self-evaluation on a scale that ranges from positive (or self-affirming) to negative (or self-denigrating)"

(Hewitt, 2002, p. 135). It is rooted in four elements: acceptance, evaluation, comparison, and efficacy (Hewitt, 2002). Self-esteem is present in all flourishing models except the PERMA model. Self-esteem has a strong association with mental health; lower self-esteem is associated with increased risk of developing depression, maintenance of anxiety disorders, and non-suicidal self-injury in both clinical and non-clinical populations (Forrester et al., 2017; Sowislo & Orth, 2013). College students with higher self-esteem are more interpersonally successful, socially accepted, and report higher quality relationships (Cameron & Granger, 2019).

Academic Outcomes Associated with Mental Health

Specific to academic performance, there are consistent small to medium correlations between subjective well-being and academic achievement across measures and demographic groups of students, including age and gender (Bücker et al., 2018). However, there is a dearth of research explicitly linking flourishing with academic outcomes. Among studies utilizing college samples, five explored the relationship between academic achievement and flourishing: two using the Flourishing Scale (Diener et al., 2010) and three using the MHC-SF (Keyes, 2002).

In a study by Lipson and Eisenberg (2018) using Healthy Minds Study data, students who meet the cutoff for flourishing (as measured by the Flourishing Scale) were more satisfied with their academic experience, more confident that they would finish their degree, and experienced less academic impairment, or days with emotional or mental difficulties, compared to their peers who did not meet the cutoff for flourishing. The only study that explored the association between academic performance and the Flourishing Scale provided evidence that flourishing positively predicted self-reported

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academic achievement among Filipino undergraduates above and beyond demographics, life satisfaction, and affect (Datu, 2018). Overall, there appears to be a link between academic outcomes and flourishing, as measured by the Flourishing Scale.

In the earliest study utilizing the MHC-SF (Keyes, 2002), Ambler (2006) explored flourishing among traditionally aged undergraduates and found no significant variations in self-reported grades based on Keyes' (2002) mental health categories (i.e., flourishing, incomplete mental health, and languishing). However, Howell (2009) found that students classified as flourishing based on Keyes' (2002) model of mental health were more likely to report higher grades compared to students who were classified with incomplete mental health or as languishing. Finally, in the most recent study, Keyes and colleagues (2012) found significant differences in academic impairment (i.e., 6 or more days during the past 4 weeks that emotional or mental difficulties hurt academic performance) based on the presence or absence of mental illness and mental health classification. Among students with a current mental disorder, those classified as languishing were over 50 times more likely, those classified with incomplete mental health were over 28 times more likely, and those classified as flourishing were nearly 16 times more likely than flourishing students without a current mental disorder to report impaired academic performance. Among students without a current mental disorder, those classified as languishing were at over 11 times more likely and those classified with incomplete mental health were nearly 4 times more likely than flourishing students without a current mental disorder to report impaired academic performance. Despite limited evidence, there appears to be a link between academic performance and Keyes' (2002) two continua model of mental health.

Relative to research on positive mental health and academic outcomes, much more research has explored associations between mental illness and academic outcomes. Mental health challenges can cause adverse academic, occupational, and social outcomes, impacting student success, including persistence and retention (Belch, 2011; Cleary, Walter, & Jackson, 2011; Eisenberg, Golberstein, & Hunt, 2009). According to the latest National College Health Assessment (American College Health Association, 2018), college students report mental health factors affecting their individual academic performance more than any other factors within the last 12 months; specifically, 33.2% reported stress, 26.5% reported anxiety, and 18.7% reported depression resulting in lower grades, incomplete or dropped courses, and/or significant disruptions in academic work. Eisenberg and colleagues (2009) found depression symptoms to be a significant negative predictor of self-reported grades and associated with greater likelihood of dropout, especially when combined with more anxiety symptoms. Svanum and Zody (2001) also found that substance-related mental disorders were associated with lower grades, but anxiety disorders were associated with higher grades and depressive disorders were not associated with grades. Despite limited research, there appears to be a strong link between mental illness and academic achievement.

To assess the relative impact of mental health and mental illness on academic performance, Renshaw and colleagues (2016) compared the utility of emotional distress and emotional well-being to predict academic achievement using both categorical and continuous analytic methods. For categorical analyses, the researchers categorized students into groups based on their level of emotional health and distress; they employed a series of analyses of variance (ANOVAs) to examine the relative prediction of

outcomes based on unidimensional emotional distress, unidimensional emotional wellness, and the bidimensional emotional health. The bidimensional emotional health categories included: (1) diminished emotionality (low-to-moderate distress and low well-being), (2) unhealthy emotionality (at-risk-to-clinical distress and low well-being), (3) healthy emotionality (low-to-moderate distress and moderate-to-high well-being), and (4) mixed emotionality (at-risk-to-clinical distress and moderate-to-high well-being). ANOVA results indicated that emotional distress alone, but not emotional wellness, predicted academic achievement. The bidimensional emotional health categories had incremental classification validity in comparison to emotional distress or emotional wellness, and also predicted academic achievement, with the highest grade-point-average (GPA) among individuals with healthy emotionality.

For continuous analyses, Renshaw and colleagues (2016) measured emotional health and distress as two continuous variables; they employed a series of latent variable path analyses (LVPAs) to examine the relative prediction of outcomes based on only emotional distress, only emotional wellness, and both emotional distress and wellness. LVPA results indicated that emotional distress alone negatively predicted academic achievement, and emotional wellness alone positively predicted academic achievement. In the model with both emotional distress and wellness as predictors, emotional distress was not a significant predictor of academic achievement, and emotional wellness positively predicted academic achievement. Results indicated that the model with only emotional wellness had the best fit indices and was the most conceptually parsimonious model, leading to the conclusion that emotional wellness alone may be a stronger predictor of academic achievement compared to emotional distress alone or a model with

both emotional distress and wellness. This study indicates that positive mental health may be more indicative of college student success than mental illness, and that categorical and continuous analytical approaches to measuring flourishing may elicit differing results.

Renshaw and colleagues (2016) recommend comparing categorical and continuous analytic methods when examining bidimensional mental health, especially considering that categorical approaches are the most predominant in research examining both mental illness and mental health. Therefore, in the current study I utilized both analytic approaches for measuring flourishing. For the categorical approach, I categorized students into four mental health groups based on their levels of positive mental health and mental illness. For the continuous approach, I measured anxiety, depression, and flourishing as continuous variables.

More research is needed to further understand the associations between mental health and academic performance among college students. As mentioned above, there are only five published studies exploring the relationship between academic performance and flourishing. More studies are needed to build evidence linking these constructs, including retesting the authors' hypotheses with additional samples and constructs of academic performance (e.g., actual GPA, time to degree completion, retention). Further, there is no information on whether flourishing or mental illness is more predictive of academic performance. Howell (2009) as well as Keyes and colleagues (2012) also mention that self-reported rather than actual GPA is a limitation of existing studies, and call for future research that goes beyond self-reported measures of academic performance. As concluded by Bücker and colleagues (2018), more research is needed on the associations between academic outcomes and other measures of flourishing, including to clarify which

measures are most reliable and valid in specific populations. This may be especially true for the widely utilized Flourishing Scale (Diener et al., 2010), given that only two published studies to date associated academic outcomes with the Flourishing Scale (Datu, 2018; Lipson & Eisenberg, 2018). The relationship between mental health and academic performance warrants furthers exploration.

Current Study

The overarching goal of this dissertation was to add to the limited research on flourishing among college students. Specifically, the current study examined 1) the level of flourishing among college student subgroups, 2) specific predictors of flourishing among college students, and 3) whether flourishing was a stronger predictor of term GPA than mental illness. The first aim of the study was to explore associations between the Flourishing Scale, a brief indicator of well-being, and specific subgroups of college students. There is some research indicating that marginalized students on campus experience low levels of flourishing (Fink, 2014; Peter et al., 2011). However, research findings are mixed on associations between flourishing and gender, sexual orientation, and SES as well as possible differences based on measurement of flourishing as a continuous variable or cutoff score. Additionally, no study to date has examined the level of flourishing among first-generation students and transfer students. Given the scant literature, it is pertinent to explore associations between flourishing and demographic constructs. More information is needed to better understand student groups that are less likely to flourishing in order for campuses to target mental health promotion efforts toward these students.

The second aim of the study was to examine the prediction of flourishing by related proxy variables. There is limited information on specific college experiences related to flourishing. While there is some indication that flourishing elements predict flourishing scores (Coffey et al., 2016; Fink, 2014; Schotanus-Dijkstra et al., 2016a), more research is needed to explore these relationships to identify possible mechanisms to increase positive mental health on college campuses. Constructs within the Healthy Minds Study data (Healthy Minds Network, 2020) that best matched flourishing elements were selected for use in this dissertation. Extracurricular involvement was selected as a proxy for engagement, although previous research suggests that it is not a significant predictor of flourishing (Fink, 2014). For positive relationships, sense of belonging was selected as a proxy (Fink, 2014). For meaning in life, religiosity and psychological inflexibility were selected. Religiosity was selected given that religion is one approach for making meaning of life events associated with a purpose in life (Abu-Hilal, Al-Bahrani, & Al-Zedjali, 2017; Francis & Hills, 2008; Nelson, Abeyta, & Routledge, 2019). Psychological inflexibility was chosen given that it is a cognitive method of comprehension of one's experiences and adaption to life stressors (Costin & Vignoles, 2019; George & Park, 2016; Park, 2010). Perceived stress was selected as a negative proxy for competence, given that it is negatively related to competence as defined as capability of working toward goal achievement (Agenor et al., 2017). Academic self-efficacy was also selected as a proxy for competence, based on similar flourishing research utilizing confidence in academic skills (Fink, 2014; Lipson & Eisenberg). No variables were selected for positive emotion due to the lack of positive measures of emotion in the Healthy Minds Study survey. Additionally, no variables were selected for

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self-esteem due to the lack of related measures in the Healthy Minds Study survey. (See Appendix A for full list of selected measures associated with each flourishing element.)

Further, the Flourishing Scale (Diener et al., 2010) lacks needed evidence to indicate relationships with objective criteria of academic performance. For example, research on college students has explored self-reported grades with Keyes' (2002) MHC-SF, but only one similar investigation was carried out using the Flourishing Scale (Datu, 2018). Therefore, the third and final aim of the study was to examine if flourishing, as measured by the Flourishing Scale, predicts term GPA above and beyond symptoms of mental illness. The Flourishing Scale is widely utilized in a nationwide college mental health survey (i.e., Healthy Minds Study), and more evidence is needed to allow institutions of higher education to evaluate possible associations with academic achievement. Given that categorical and continuous analytical approaches led to incongruent findings for the association between emotional health (i.e., mental illness and mental health) and academic achievement in a previous study (Renshaw et al., 2016), I utilized both approaches to measuring flourishing in this study in order to provide more context to the current study's findings.

This dissertation contributes to mental health promotion efforts on college campuses by indicating possible student groups and activities that may be targeted on campus to increase flourishing among college students. This study also differentiates the effects of mental illness and mental health on an objective outcome in college: term GPA. Research questions and hypotheses include:

1) **Does flourishing vary as a function of demographic variables?**

Differences in the levels of flourishing among student groups were explored without specific hypotheses due to the scant literature on demographic indicators associated with flourishing.

2) **Do proxy variables for the elements of flourishing (academic self-efficacy, extracurricular involvement, perceived stress, psychological inflexibility, religiosity, and sense of belonging) account for significant variance in flourishing? If so, which proxy variables are most predictive of flourishing?**

Hypotheses were that academic self-efficacy, extracurricular involvement, religiosity, and sense of belonging will be significantly and positively associated with flourishing (Antaramian, 2015; Fink, 2014; Lipson & Eisenberg, 2018; Peter et al., 2011), and that perceived stress and psychological inflexibility will be significantly and negatively associated with flourishing (Agenor et al., 2017).

3) **Does flourishing account for unique variance in term GPA above and beyond the contributions of mental illness symptoms? How do results compare using categorical and continuous analytic approaches to measuring flourishing?**

Based on the continuous analytic approach, mental illness symptoms and flourishing will predict term GPA, with flourishing being more predictive of term GPA than mental illness symptoms (Datu, 2018; Renshaw et al., 2016). Based on the categorical analytic approach, term GPA will vary based on emotional health categorization; students who are mentally healthy (flourishing, low mental illness) will report the highest term GPA compared to students who are asymptomatic yet discontent (not flourishing, low mental illness), symptomatic yet content

(flourishing, moderate/high mental illness), and mentally unhealthy (not

flourishing, moderate/high mental illness; Renshaw et al., 2016).

CHAPTER II

METHODS

Participants

Participants were 769 degree-seeking students enrolled at a university in the Pacific Northwest during the 2016-2017 academic year. The sample consisted of male (36.2%, $n = 278$) and female (63.5%, $n = 488$) students with ages ranging from 18 to 69 years old ($M = 23.06$, $SD = 6.04$). No information on sex was available for three participants (0.4%). In regard to race/ethnicity, the majority of participants (61%, $n = 469$) identified as White, 12.5% as international ($n = 96$), 10.5% as Hispanic/Latino ($n = 81$), 7.0% as two or more races ($n = 54$), 4.8% as Asian ($n = 37$), 1.8% as Black or African American ($n = 14$), and 0.6% as American Indian, Alaskan Native, Native Hawaiian, or other Pacific Islander ($n = 5$). No information was available on race/ethnicity for thirteen participants (1.7%). The majority of participants (80.9%) identified as heterosexual ($n = 622$) and were not first-generation students (77%, $n = 592$). Three participants (0.4%) did not identify their sexual orientation. The racial/ethnic group proportion of students who participated in the study was similar to that of the student body during the 2016-17 academic year.

The majority of participants (78.8%) were undergraduate students ($n = 606$); 29.3% were seniors ($n = 225$), 19.0% were juniors ($n = 146$), 16.5% were sophomores ($n = 127$), and 14.0% were freshmen ($n = 108$). The sample also consisted of law students (1.6%, $n = 12$) and graduate students (19.2%, $n = 148$), with 9.9% pursuing their Masters ($n = 76$) and 8.8% pursuing their Doctorate ($n = 68$). One graduate participant officially withdrew from the university (0.1%) and three graduate participants were not taking

courses for grades (0.4%). No information on class standing was available for three participants (0.4%). The majority of participants (55.7%, $n = 428$) were not transfer students, while 15.2% transferred from a community/junior college ($n = 117$) and 5.3% transferred from a 4-year college/university ($n = 41$). No information on transfer status was available for 23.8% of participants ($n = 183$). This compares with an average undergraduate student age of 20.9; a student breakdown of 84.9% undergraduate and 15.1% graduate; 53.5% who were female; and 59.9% who identified as White, based on university data for the 2016-17 academic year.

Procedure

This dissertation utilized existing archival data. A random representative sample of 4,000 students attending a Pacific Northwest university were sent the Healthy Minds Study (HMS) survey, a "web-based survey examining mental health, service utilization, and related issues among undergraduate and graduate students," via email in Spring term of 2017. The survey was hosted on Qualtrics and took approximately 25 minutes to complete. The HMS survey is one of the only annual surveys that focuses on mental health in college and university populations. Since its nationwide launch in 2007, the HMS survey has been utilized at approximately 300 colleges and universities. Higher education and post-secondary institutions can enroll in the study as frequently as each year, and the HMS survey data can be used to inform policy and practice on campus as well as benchmark against peer institutions (Healthy Minds Network, 2020). The response rate was approximately 19% for the university.

In order to enroll in the HMS study, institutions are required to sign a participation contract (research agreement) with the University of Michigan, submit the

appropriate payment to the study team, and provide customization specifications (e.g., school logo, local resources). The institution also provides the HMS team with "a sample file of students from their Registrar's Office" that includes students' first name and email address (Healthy Minds Network, 2021, p. 3). Institutions that participate in HMS are able to select two elective modules for students to complete. The university research team selected "Knowledge and Attitudes about Mental Health and Mental Health Services" and "Resilience and Coping" as the elective modules for the Spring 2017 iteration of the HMS survey. "Knowledge and Attitudes about Mental Health and Mental Health Services" encompasses items assessing awareness of mental illness, treatment for mental illness, perceptions of campus resources for mental health support, and mental illness stigma. "Resilience and Coping" encompasses items assessing emotional resilience, experiential avoidance, and psychological inflexibility. For an additional cost, institutions can submit up to 10 additional items to include in the HMS survey. The university research team opted in to this additional service and submitted items assessing academic self-efficacy, perceived stress, and sense of belonging on campus. (See Appendix B for full HMS survey, with elective modules and additional institution items.)

Dissemination of the online survey to students was conducted by email. Students were first sent a brief pre-notification email to boost participation rates. Two to three days later, students were sent an email with the link to the online survey. Non-responders were sent up to three reminder emails, separated by approximately five to seven days each. In total, students received up to five emails regarding their participation in the study. Any student who did not wish to participate could remove themselves from the

study by selecting an opt-out link at the bottom of the emails or by not consenting on the online survey.

Prior to completing the questionnaire, participants completed a modified HMS informed consent to have their aggregate de-identified data used for research purposes. Approval to utilize pre-existing data for this study was obtained from the Institutional Review Board at the University of Oregon. Each student had a unique identification number associated with their survey responses in order to match responses with institutional data. Access to archival student academic and demographic data variables were provided by the Office of the Registrar. The Director of Institutional Research (JP Monroe) matched student records with Health Minds Study survey responses on the basis of unique student identification numbers to create the study dataset. Identification numbers and any other uniquely-identifying information were deleted from the dataset prior to its use for the study.

Measures

Demographics. Students' sex, race/ethnicity, class standing, transfer student status, and first-generation student status were obtained from university enrollment records. Age and sexual orientation were reported by the student on the HMS survey. Socioeconomic status was assessed based on responses to the question, "How would you describe your financial situation right now?" Participants responded on a 5-point Likert scale ranging from 1 (*Always stressful*) to 5 (*Never stressful*).

Flourishing Scale. The Flourishing Scale (FS) is a unidimensional self-report measure assessing self-perceived competence, engagement, optimism, purpose, relatedness, and self-esteem (Diener et al, 2010). It consists of eight items that create a

single well-being score. The items are as follows: "I lead a purposeful and meaningful life," "My social relationships are supportive and rewarding," I am engaged and interested in my daily activities," "I actively contribute to the happiness and well-being of others," "I am competent and capable in the activities that are important to me," "I am a good person and live a good life," "I am optimistic about my future," and "People respect me." Instructions direct the respondent to indicate their agreement with each statement by selecting a response from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The FS is scored by adding the responses to each item to create a total score. Possible scores range from 8 (lowest possible) to 56 (highest possible). A mean score was also calculated for each respondent by dividing the sum of responses by the number of questions answered. A higher score represents a respondent with "many psychological resources and strengths" indicative of flourishing (Diener et al., 2010, p. 155). While Diener and colleagues (2010) do not specify a cutoff score for flourishing, HMS researchers used a summed score of 48 as the threshold; no justification for using this score as the threshold was provided in the report (Healthy Minds Network, 2019). Other researchers, including Hone and colleagues (2014), also adapted this arbitrary cutoff score. As such, I used this cutoff score in the present study.

Diener and colleagues (2010) provided initial psychometric information on the FS with evidence based on a sample of 689 college students. The majority of the sample was attending college in the United States in five different states (California, North Carolina, Illinois, New Jersey, and Virginia), and 26% of the sample was attending college in Singapore. The sample was predominately female (68%), and no additional demographic information was provided (Diener et al., 2010). Psychometric norms established by

Diener and colleagues (2010) are a mean of 44.97, standard deviation of 6.56, and range from 8 to 56.

Diener and colleagues (2010) provided convergent validity evidence by showing strong positive correlations between the FS and other prominent measures of well-being, such as the Satisfaction with Life Scale (Diener et al., 1985), and negative correlations between the FS and prominent indicators of poor functioning, such as the UCLA Loneliness Scale (Russell, 1996). Studies have provided content validity evidence by showing the unidimensionality of the scale and satisfactory item fit in exploratory and confirmatory factor analyses (Diener et al., 2010; Schotanus-Dijkstra et al., 2016c). Acceptable psychometric properties have been found in student samples (Diener et al., 2010; Howell & Buro, 2015), a community sample (Hone, Jarden, & Schofield, 2013), and a clinical sample (Schotanus-Dijkstra et al., 2016c). The FS has also been adapted, translated, and validated for use in China, India, Japan, and Portugal (Silva & Caetano, 2011; Singh et al., 2016; Sumi, 2013; Tang et al., 2014). In the initial study, Diener and colleagues (2010) note a Cronbach's alpha of .87, indicating high reliability of the FS. Other researchers have indicated similar levels of high reliability, with Cronbach's alphas ranging from .78 to .95 (Hone et al,, 2013; Howell & Buro, 2015; Silva & Caetano, 2011; Sumi, 2013; Tang et al., 2014). In the present sample, internal consistency reliability was $\alpha = .91$.

Generalized Anxiety Disorder-7. The Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006) is a seven-item self-administered measure to screen for generalized anxiety disorder. Participants were asked, "Over the last 2 weeks, how often have you been bothered by the following problems?"

Example items include, "Feeling nervous, anxious, or on edge" and "Becoming easily annoyed or irritable." Participants answered using a 4-point scale, with 0 indicating '*Not at all sure*,' 1 '*Several days*,' 2 '*Over half the days*,' and 3 '*Nearly every day*.' A total sum score was calculated based on responses, with scores ranging from 0 (endorsement of no symptoms) to 21 for the GAD-7 (endorsement of all symptoms nearly every day). Total scores of 0 to 4 indicate 'minimal or no anxiety', 5 to 9 'mild anxiety', 10 to 14 'moderate anxiety', and 15 to 21 'severe anxiety'. Further evaluation is recommended when the score is 10 or greater (Spitzer et al., 2006). A mean score was also calculated for each respondent by dividing the sum of responses by the number of questions answered. This measure served as an indicator of mental illness.

In its initial validation study, the GAD-7 had high internal reliability with a Cronbach's *a* of .92, and strong procedural validity with a correlation of 0.83 between self-reported and mental health professional-administered versions. There is evidence of construct validity, with strong associations between scores on the GAD-7 and functional impairment as measured by an additional item assessing related impairment (Spitzer et al., 2006). In the present sample, internal consistency reliability was $\alpha = .90$.

Patient Health Questionnaire-9. The Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 2001) is a nine-item self-administered measure to screen for depression. Participants were asked, "Over the last 2 weeks, how often have you been bothered by the following problems?" Example items include "Little interest or pleasure in doing things" and "Feeling down, depressed, or hopeless." Participants answer using a 4-point scale, with 0 indicating '*Not at all sure*,' 1 '*Several days*,' 2 '*Over half the days*,' and 3 '*Nearly every day*.' A total sum score was calculated based on responses, with

scores ranging from 0 (endorsement of no symptoms) to 27 (endorsement of all symptoms nearly every day). Total scores of 0 to 4 indicate 'minimal or no depression', 5 to 9 'mild depression', 10 to 14 'moderate depression', 15 to 19 'moderately severe depression', and 20 to 27 'severe depression' (Kroenke et al., 2001). A mean score was also calculated for each respondent by dividing the sum of responses by the number of questions answered. This measure served as an indicator of mental illness.

In its initial validation studies, the PHQ-9 had high internal reliability with a Cronbach's *a* of .86 and .89, and strong test-retest reliability with a correlation of 0.84 between administrations 48 hours apart. There is evidence of construct validity, with strong associations between scores on the PHQ-9 and functional impairment as measured by an additional item assessing related impairment. There is also evidence of predictive validity, with strong associations between scores on the PHQ-9 and the prevalence of depressive disorders (Kroenke et al., 2001). In the present sample, internal consistency reliability was $\alpha = .89$.

Extracurricular involvement. Participants' extracurricular involvement was assessed based on responses to the question, "What activities do you currently participate in at your school?" Options included academic or pre-professional organization, community service, cultural or racial organization, fraternity or sorority, and visual or fine arts. Participants could select all options that apply, or could select 'none.' Responses were recoded into a frequency scale, with higher scores indicating involvement in more types of extracurricular activities. This item served as an indicator of engagement.

Sense of belonging. Items measuring sense of belonging at the university were adapted by Clark (2016) from Walton and Cohen's (2007) Sense of Academic Fit to form a 3-item scale for the purpose of this study. Wording of the items was adapted to be specific to the university, and to elicit judgments of uncertainty about fitting in socially, so as to be more similar to measures of academic belonging (see Lewis and Hodges' [2015] Academic Uncertainty Scale). Participants were asked to indicate the extent to which they agree with each of three items: "I feel confident that I belong at [university]", "I sometimes feel that people at [university] do not accept me", and "I worry that I am an outsider at [university]." Participants responded on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The latter two items were reverse coded. A mean score was calculated for each respondent by dividing the sum of responses by the number of questions answered. A higher average score across items indicates a higher sense of belonging on campus. This measure served as an indicator of positive relationships. In the present sample, internal consistency reliability was $\alpha = .79$.

Academic self-efficacy. Three items were selected from the HMS survey as indicators of academic self-efficacy. The first two items were developed by Clark (2016) and Lewis and colleagues (2017); they were selected by the university research team as additional items to the HMS survey. Participants were asked to indicate the extent to which they agree with each of two items: "I am confident that I can earn a B or better grade in all my courses this term" and "I am confident that I can find employment after I graduate." These items refer to events of varying temporal distance and assess students' confidence in meeting academic and career-related goals. Participants responded on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The third

item was developed by the Healthy Minds Network and is included in the standard HMS survey (see Appendix B). Participants' confidence in persistence to degree completion was assessed based on responses to the question, "How much do you agree with the following statement?: I am confident that I will be able to finish my degree no matter what challenges I may face." Participants responded on a 6-point Likert scale ranging from 1 (*Strongly agree*) to 6 (*Strongly disagree*). Responses were recoded such that higher scores indicate higher levels of confidence in persistence to degree completion. Together, these three items comprised a measure that served as an indicator of self-perceived competence, with a higher score across items indicating higher academic self-efficacy. Internal consistency reliability was $\alpha = .67$ in the present sample.

Religiosity. Participants' level of religiosity was assessed based on responses to the question, "How important is religion in your life?" No further information is available about the origin of this question. Participants responded on a 5-point Likert scale ranging from 1 (*Very important*) to 5 (*Very unimportant*). Responses were recoded such that higher scores indicate higher levels of religiosity. This item served as an indicator of meaning.

Acceptance and Action Questionnaire-II. The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is a unidimensional seven-item measure assessing psychological inflexibility. Participants were instructed, "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice." Example items include "I worry about not being able to control my worries and feelings" and "It seems like most people are handling their lives better than I am." Participants answered using a 7-point Likert scale, with 1 indicating '*Never true*'

and 7 indicating '*Always true*.' A mean score was calculated for each respondent by dividing the sum of responses by the number of questions answered. A higher average score across items indicates a higher level of distress related to psychological inflexibility. This measure served as an indicator of meaning.

In its initial validation studies, the AAQ-II had moderate to high internal reliability with a Cronbach's *a* of .78 and .88, and strong test-retest reliability with a correlation of 0.81 between administrations 3 months apart. There is evidence of construct validity, with strong associations between scores on the AAQ-II and measures of anxiety, depression, stress, and overall psychological health (Bond et al., 2011). In the present sample, internal consistency reliability was $\alpha = .92$.

Perceived Stress Scale-4. The Perceived Stress Scale 4 (PSS-4; Cohen, Kamarck, & Mermelstein, 1983) is a four-item measure of "the degree to which situations in one's life are appraised as stressful" (p. 385). Participants were instructed, "The questions in this scale ask about your feeling and thoughts during THE LAST MONTH. In each case, please indicate your response by placing an 'X' over the square representing HOW OFTEN you felt or thought a certain way." Items asked within the last month, "how often have you felt that you were unable to control the important things in your life?", "how often have you felt confident about your ability to handle your personal problems?", "how often have you felt that things were going your way?" and "how often have you felt difficulties were piling up so high that you could not overcome them?" Participants answered using a 5-point Likert scale, with 0 indicating '*Never*' and 4 indicating '*Very often*.' Items two and three were reverse coded. A mean score was calculated for each respondent by dividing the sum of responses by the number of questions answered. A

higher average score across items indicates a higher level of perceived stress. This measure served as an indicator of self-perceived competence.

In its initial validation studies, the 14-item version of the PSS had high internal reliability with a Cronbach's *a* of .84 and .86, and strong test-retest reliability with a correlation of 0.85 between administrations two days apart. There is evidence of concurrent validity, with strong associations between scores on the PSS and measures of physical symptomology as well as the number and impact of negative life events. The 4-item version of the PSS exhibited moderate internal reliability with a Cronbach's *a* of .72, and moderate test-retest reliability with a correlation of 0.66 between administrations two months apart (Cohen et al., 1983). Cohen and colleagues (1983) recommend use of the 4-item measure for telephone interviews and other administrations where a short scale is needed. In the present sample, internal consistency reliability was $\alpha = .75$.

GPA. Term GPA was calculated for Spring of 2017, the term in which students took the HMS survey. Courses were graded on a scale of 0 to 4.3, with 0 indicating an *F* and 4.3 corresponding to an *A+*. GPA was calculated as the total number of grade points (course grade multiplied by course credits) divided by the number of graded credits attempted that term. Only students enrolled at the university during Spring term of 2017 were included in the analysis of term GPA. This measure served as an indicator of academic achievement.

CHAPTER III

RESULTS

Preliminary Analyses

Data were screened for outliers and influencers, and independent variables were

screened for multicollinearity. Data from one respondent were excluded from the

analyses due to responses across measures that appeared to be answered disingenuously.

Data screening indicated at least one outlier on all items and measures, except religiosity.

All outlier responses were examined, were within the acceptable range on their respective

measures, and appeared to be genuine responses. As such, outliers were retained in the

data analyses. Multicollinearity did not appear to be an issue with the variables; inflation

factors were below 2.35 and tolerances were above 0.43 for each variable (Pedhazur,

1997).

Skewness and kurtosis were examined for each variable in the study. Scores for

all variables except extracurricular involvement and term GPA were within the

recommended range of -2 to +2 for skew and kurtosis (West, Finch, & Curran, 1995).

Data for extracurricular involvement (kurtosis = 2.20) and term GPA (kurtosis = 2.42)

indicated leptokurtic distributions; however, analyses of variance and structural equation

modeling are robust to such moderate violations of normality (Kline, 2011).

Missing Data

Mean scale scores for the seven measures (i.e., FS, GAD-7, PHQ-9, sense of

belonging, AAQ-II, PSS-4, and academic self-efficacy) were created based on item level

data. Missing data ranged from a low of <1% to a high of 9.5% for study measures (see

Table 3). The missing completely at random (MCAR) assumption was not tenable as per

Little's MCAR test ($\chi^2[399] = 605.07$, $p < .001$), indicating that data were not missing completely at random (Little & Rubin, 1987). Chi-square tests of independence with variables created to denote missingness were utilized to compare missingness by demographic indicators (i.e., sex, sexual orientation, first-generation student status, transfer student status, year in school, race/ethnicity, and socioeconomic status). The relationship between transfer student status and missingness was significant, χ^2 (2, 765) = 179.10, $p < .001$. Students who transferred to the university were less likely to have a term GPA than non-transfer students. The relationship between year in school and missingness was also significant, χ^2 (4, 765) = 187.42, $p < .001$. Graduate students were less likely to have a term GPA than undergraduate students of all class standings. There were no other significant relationships between demographic indicators and missingness on study variables. It is reasonable that transfer students and graduate students would be less likely to have term GPAs given they have likely been enrolled for less time at the university than non-transfer students and undergraduate students, respectively. Therefore, the nonresponse is ignorable and data appears to be missing at random, meeting the requirements for multiple imputation (Schafer, 1999).

Multiple imputation was conducted using the *mice* package (van Burren & Groothuis-Oudshoorn, 2011) and RStudio Version 1.2.5019. Multiple imputation was selected given the advantages of yielding a complete set of data to analyze, precision of parameter estimates, and accuracy of standard errors (Olinsky, Chen, & Harlow, 2003; Schlomer, Bauman, & Card, 2010). For each analysis, we compared the findings with and without imputed values as a final test of the influence of missing data. Results did not

differ significantly based on imputed values. All of the following results are based on imputed values.

Flourishing Scale

To examine the structure of the Flourishing Scale, an exploratory factor analysis (EFA) was performed using principal axis factor analysis with a varimax rotation. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity demonstrated that the data was appropriate for conducting an EFA, $KMO = .92$, $\chi^2(28) = 3333.39$, $p < .001$. Visual inspection of the scree plot and eigenvalues was conducted to extract the optimal number of factors (Costello & Osborne, 2005). A one-factor solution was indicated; this factor accounted for 61.08% of the variance across the eight items. Inspection of the factor matrix revealed high loadings for items, ranging from .72 to .80 on the factor (see Table 1). Factor loadings were deemed acceptable, and the one-factor measure of flourishing was used in the in subsequent analyses.

Academic Self-Efficacy

The measure of academic self-efficacy consisting of three indicators, one from the standard HMS survey and two developed by Clark (2016) and Lewis and colleagues (2017), was examined given that the items do not form an established measure. An EFA was performed using principal axis factor analysis with a varimax rotation. The z-scores of each item were used in the analysis due to the varying scales of the items. KMO measure of sampling adequacy and Bartlett's test of sphericity demonstrated that the data was appropriate for conducting an EFA, $KMO = .65$, $\chi^2(3) = 342.66$, $p < .001$. Visual inspection of the scree plot and eigenvalues was conducted to extract the optimal number of factors (Costello & Osborne, 2005). A one-factor solution was indicated; this factor

accounted for 60.13% of the variance across the three items. Inspection of the factor matrix revealed moderate to high loadings for items, ranging from .56 to .72 on the factor (see Table 2). Factor loadings were deemed acceptable, and the one-factor measure of academic self-efficacy was used in the in subsequent analyses.

Table 1

Item Loadings for the One-Factor Solution of the Flourishing Scale

Item	Loading
I lead a purposeful and meaningful life.	.801
I am optimistic about my future.	.797
I am a good person and live a good life.	.792
I am competent and capable in the activities that are important to me.	.741
I am engaged and interested in my daily activities.	.735
People respect me.	.720
I actively contribute to the happiness and well-being of others.	.701
My social relationships are supportive and rewarding.	.668
Variance explained	61.078%

Note. The exploratory factor analysis performed used principal factor analysis with a varimax rotation. Response options ranged from 1-7.

Descriptive Statistics

Descriptive data were examined prior to hypothesis testing. Table 3 displays descriptive statistics for study variables, along with percent of missingness on each measure. Table 4 displays correlations between flourishing, mental illness indicators (i.e.,

Table 2

Item Loadings for the One-Factor Solution of Academic Self-Efficacy

Item	Loading
I am confident that I can find employment after I graduate.[a]	.719
I am confident that I can earn a B or better grades in all my courses this term.[a]	.627
I am confident that I will be able to finish my degree no matter what challenges I may face.[b]	.559
Variance explained	60.125%

Note. The exploratory factor analysis performed used principal factor analysis with a varimax rotation. The z-score of each item was used due to varying scales across items.

[a] Items were added by the university research team to the HMS survey and were originally developed by Clark (2016) and Lewis and colleagues (2017). [b] Item was included in the standard HMS survey.

anxiety and depression), proxy elements of flourishing (i.e., sense of belonging, extracurricular involvement, religiosity, psychological inflexibility, perceived stress, and academic self-efficacy), and term GPA. Flourishing was negatively correlated with anxiety and depression, indicating that positive mental health and mental illness are distinct but related constructs. Anxiety and depression were strongly and positively correlated. Flourishing was moderately and positively correlated with sense of belonging and academic self-efficacy, and moderately and negatively correlated with psychological inflexibility and perceived stress. Flourishing was also correlated with extracurricular involvement and religiosity. Term GPA was only significantly correlated with religiosity to a low degree. Surprisingly, term GPA was not correlated with academic self-efficacy.

Table 3

Means, Standard Deviations, and Percent of Missing Variables

Variable	Non-imputed				Imputed		
	Percent Missing	*n*	Mean	SD	*n*	Mean	SD
Flourishing	2.99%	745	5.41	1.03	768	5.41	1.04
Anxiety	5.59%	725	0.95	0.74	768	0.93	0.73
Depression	4.68%	732	0.86	0.65	768	0.85	0.64
Sense of belonging	9.49%	695	4.92	1.57	768	4.93	1.56
Extracurricular involvement	8.19%	705	1.22	1.27	768	1.21	1.25
Religiosity	0.78%	762	3.46	1.33	768	3.46	1.33
Psychological inflexibility	9.36%	696	3.19	1.33	768	3.18	1.32
Perceived stress	9.49%	695	1.75	0.80	768	1.73	0.79
Academic self-efficacy	–	758	0.01	0.78	768	0	0.77
Confidence in persistence	1.30%	758	5.20	1.00	768	5.20	1.00
Confidence in grades	9.62%	694	5.70	1.67	768	5.71	1.66
Confidence in employment	9.62%	694	5.09	1.79	768	5.09	1.78
Term GPA	9.49%	695	3.23	0.77	768	3.24	0.78

Note. Response options ranged from 1-7 for flourishing; 0-3 for anxiety; 0-3 for depression; 1-7 for sense of belonging; 1-5 for religiosity; 1-7 for psychological inflexibility; and 0-4 for perceived stress. Extracurricular involvement was a frequency variable with 18 possible activities (range 0-8). Academic self-efficacy consisted of three independent indicators; response options ranged from 1-6 for confidence in persistence, 1-7 for confidence in grades, and 1-7 for confidence in employment after graduation. Due to the differences in response options for items comprising academic self-efficacy, descriptive statistics for the overall measure are based on the z-score (range -2.70 to 0.88). Term GPA ranged from 0-4.30.

Table 4

Correlation Matrix for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Flourishing	—									
2. Anxiety	-.46***	—								
3. Depression	-.58***	.73***	—							
4. Sense of belonging	.45***	.-.40***	-.42***	—						
5. Extracurricular involvement	.19***	-.03	-.10**	.08*	—					
6. Religiosity	-.11**	.07*	.07	.01	-.11**	—				
7. Psychological inflexibility	-.56***	.66***	.65***	-.46***	0	.08*	—			
8. Perceived stress	-.59***	.63***	.64***	-.49***	-.02	.06	.70***	—		
9. Academic self-efficacy	.53***	-.36***	-.47***	.40***	.12**	-.10***	-.46***	-.54***	—	
10. Term GPA	.013	.03	.04	.03	-.01	.07*	.04	.03	-.01	—

*p < .05. **p < .01. ***p < .001.

Flourishing among Demographic Groups

Prior to conducting analyses, smaller demographic subgroups were combined such that students who indicated American Indian/Alaskan Native, Asian, Black/African American, Hispanic/Latino, Native Hawaiian/Pacific Islander, and/or multiracial as their racial/ethnic minority group status were recoded as students of color, and students who indicated identification as a sexual minority (e.g., lesbian, gay, bisexual, or queer) were recoded into a single group. Based on the stress of their current financial situation, students were classified as having a low (always or often stressful), moderate (sometimes stressful), or high (rarely or never stressful) socioeconomic status. Analyses were conducted using IBM SPSS Version 26.

Flourishing was measured as both a continuous variable (level of flourishing) and as a cutoff score (flourishing/not flourishing) in order to compare findings, given that both methods are utilized in prior research. To examine the associations between student subgroups and flourishing, a series of independent samples *t*-tests and one-way, between-subjects analyses of variance (ANOVAs) were employed. To also examine the proportion of students of various demographic groups who met the cutoff for flourishing, a series of chi-square tests of independence were also employed. The *t*-tests were utilized to examine whether level of flourishing varied as a function of sex (male/female), sexual orientation (heterosexual/sexual minority), first-generation student status (yes/no), and transfer student status (yes/no). Descriptive statistics for *t*-tests and the percentage of students who met the cutoff for flourishing are presented in Table 5. Consistent with hypothesis 1, there was a significant difference for sexual orientation [$t(766) = 5.47, p < .001$] with sexual minority students indicating lower levels of flourishing than

Table 5

Demographic Variables by Level of Flourishing (t-Tests)

Categorical variable	Flourishing			
	n	*M*	*SD*	% cutoff
Sex[a]				
Male	280	5.34	1.13	33.9%
Female	488	5.45	0.98	35.2%
Sexual orientation[b]				
Sexual minority	144	4.99	1.07	17.4%
Heterosexual	624	5.51	1.00	38.8%
First-generation student status[a]				
Yes	176	5.46	1.06	31.3%
No	592	5.42	1.03	35.8%
Transfer student status (undergraduate only)[a]				
Yes	133	5.39	1.23	33.1%
No	469	5.44	1.01	34.1%

Note. Response options for flourishing ranged from 1-7. Students with a summed score of 48 or higher are indicated to be meeting the cutoff for flourishing.

[a] Difference is not significant, $p > .05$. [b] Students who self-identified as sexual minorities had lower levels of flourishing than heterosexual students, $p < .001$.

heterosexual students. Inconsistent with hypothesis 1, level of flourishing did not vary based on sex $[t(515.18) = 1.42, p > .05]$, first-generation student status $[t(766) = 0.71, p > .05]$, and transfer student status $[t(185.31) = 1.31, p > .05]$.

ANOVAs were utilized to examine whether level of flourishing varied as a function of year in school (first/second/third/fourth+/graduate), race/ethnicity (international student/student of color/White), and socioeconomic status (low/moderate/high). Descriptive statistics for ANOVAs and the percentage of students who met the cutoff for flourishing are presented in Table 6. For socioeconomic status, *Welch's F* test was used due to the homogeneity of variances assumption being violated [*Levene's* test: $F(2, 765) = 5.92, p = .003$]. Consistent with hypothesis 1, there was a significant main effect for socioeconomic status, *Welch's* $F(2, 493.72) = 13.72, p < .001$. The estimated omega squared ($\omega^2 = .004$) indicated that approximately 0.4% of the total variance in flourishing was accounted for by socioeconomic status. Follow-up pairwise comparisons were conducted using the Games-Howell post hoc procedure given that equal variances could not be assumed (Games & Howell, 1976). Results indicated that students with low SES had significantly lower levels of flourishing than students with moderate SES and students with high SES, $p = .002$ and $p < .001$, respectively. There was no significant difference between students with moderate SES and high SES, $p > .05$. Inconsistent with hypothesis 1, level of flourishing did not vary based on year in school $[F(4, 767) = 1.14, p > .05]$ and race/ethnicity $[F(2, 757) = 1.92, p > .05]$.

Table 6

Demographic Variables by Level of Flourishing (Analyses of Variance)

	Flourishing			
Categorical variable	*n*	*M*	*SD*	% cutoff
Year in school[a]				
First year	108	5.50	0.89	33.3%
Second year	128	5.24	1.17	26.6%
Third year	147	5.44	1.02	35.4%
Fourth year or beyond	225	5.44	1.08	39.1%
Graduate/professional student	160	5.41	0.96	35.6%
Race/Ethnicity[a]				
International student	96	5.60	1.06	43.8%
Student of color	192	5.38	0.98	33.3%
White student	470	5.38	1.02	33.2%
Socioeconomic status (SES)[b]				
Low SES	293	5.18	1.11	27.0%
Moderate SES	274	5.48	0.99	35.0%
High SES	201	5.65	0.91	45.8%

Note. Response options for flourishing ranged from 1-7. Students with a summed score of 48 or higher are indicated to be meeting the cutoff for flourishing.

[a] No significant main effect, $p > .05$. [b] Significant main effect for flourishing, $p < .001$. Participants with low SES had significantly lower levels of flourishing than participants with moderate SES and participants with high SES.

Chi-square tests of independence were utilized to examine the relationship between meeting the cutoff for flourishing and various demographic indicators. Specifically, I examined the proportion of students who met the cutoff for flourishing based on sex (male/female), sexual orientation (heterosexual/sexual minority), first-generation student status (yes/no), transfer student status (yes/no), year in school (first/second/third/fourth+/graduate), race/ethnicity (international student/student of color/White), and socioeconomic status (low/moderate/high). Prior to conducting these analyses, students were categorized as either flourishing (Flourishing Scale score of 48 or higher) or not flourishing (Flourishing Scale score of less than 48) based on the cutoff criteria used in the Healthy Minds Study (Healthy Minds Network, 2019). Overall, 34.8% of students in the sample were flourishing. Descriptive statistics for chi-square analyses and the percentage of students who met the cutoff for flourishing based on demographic indicators are presented in Table 7.

Consistent with hypothesis 1, the percentage of students who were flourishing varied based on sexual orientation [χ^2 (1, 768) = 23.67, $p < .001$] and socioeconomic status [χ^2 (2, 768) = 18.61, $p < .001$]. Results indicated that more than twice as many heterosexual students (38.8%) met the cutoff for flourishing compared to sexual minority students (17.4%). Pairwise comparisons for socioeconomic status indicated that significantly fewer students with low SES (27.0%) met the cutoff for flourishing than students with high SES (45.8%). There was no significant difference between students with low SES and moderate SES or between students with moderate SES and high SES. Inconsistent with hypothesis 1, the percentage of students who met the cutoff for flourishing was similar based on sex [χ^2 (1, 768) = 0.14, $p > .05$], first-generation student

status [χ^2 (1, 768) = 1.24, p > .05], transfer student status [χ^2 (1, 768) = 0.05, p > .05],

year in school [χ^2 (4, 768) = 5.85, p > .05] and race/ethnicity [χ^2 (2, 768) = 4.10, p > .05].

Table 7

Demographic Variables by Cutoff Score for Flourishing (Chi-Square Tests of Independence)

Categorical variable	Flourishing		Not Flourishing	
	n	%	*n*	%
Sex				
Male	95	33.9%	185	66.1%
Female	172	35.2%	316	64.8%
Sexual orientation				
Sexual minority[a]	25	17.4%	119	82.6%
Heterosexual[a]	242	38.8%	382	61.2%
First-generation student status				
Yes	55	31.3%	121	68.8%
No	212	35.8%	380	64.2%
Transfer student status (undergraduate only)				
Yes	44	33.1%	89	66.9%
No	160	34.1%	309	65.9%
Year in school				
First year	36	33.3%	72	66.7%
Second year	34	26.6%	94	73.4%
Third year	52	35.4%	95	64.6%
Fourth year or beyond	88	39.1%	137	60.9%
Graduate/professional student	57	35.6%	103	64.4%

Table 7, Continued

	Flourishing		Not Flourishing	
Categorical variable	*n*	%	*n*	%
Race/Ethnicity				
International student	42	43.8%	54	56.3%
Student of color	64	33.3%	128	66.7%
White student	156	33.2%	314	66.8%
Socioeconomic status (SES)				
Low SES[b]	79	27.0%	214	73.0%
Moderate SES	96	35.0%	178	65.0%
High SES[b]	92	45.8%	109	54.2%

Note. Shared superscripts indicate a significant difference between subgroups, $p < .05$. Students with a summed score of 48 or higher are indicated to be meeting the cutoff for flourishing.

Flourishing and Related Elements

One regression model was tested to investigate the prediction of flourishing by related constructs (i.e., extracurricular involvement, perceived stress, psychological inflexibility, religiosity, academic self-efficacy, and sense of belonging; see Figure 1). The model was tested using maximum likelihood estimation with IBM SPSS Amos Version 26. Model fit was not evaluated given that the model was just-identified and fit indices were not provided (Kline, 2011).

Figure 1

Regression model predicting flourishing with standardized parameter estimates and R²
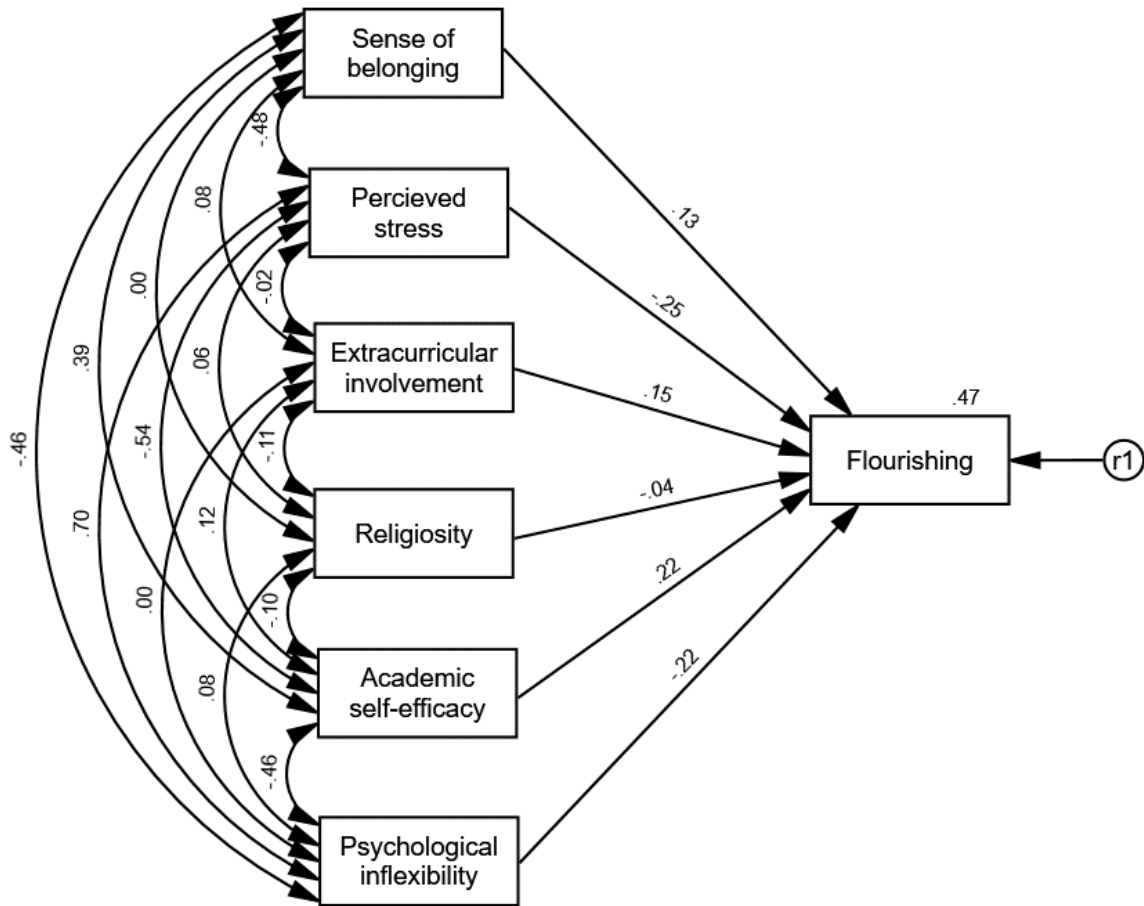
The model with standardized coefficients is illustrated in Figure 1. Flourishing

had a squared multiple correlation of .475, indicating that the model explained 47.5% of

the total variance in flourishing. The covariance between sense of belonging and

extracurricular involvement ($\varphi = .154$, $SE = .070$, $z = 2.18$, $p < .05$), psychological

inflexibility ($\varphi = -.947$, $SE = .082$, $z = -11.59$, $p < .001$), perceived stress ($\varphi = -.599$, $SE = .050$, $z = -12.08$, $p < .001$), and academic self-efficacy ($\varphi = .475$, $SE = .047$, $z = 10.17$, $p < .001$) were significant. The covariance between academic self-efficacy and

extracurricular involvement (φ = .118, *SE* = .035, *z* = 3.38, *p* < .001), religiosity (φ = -.099, *SE* = .037, *z* = -2.66, *p* < .01), psychological inflexibility (φ = -.471, *SE* = .041, *z* = -11.60, *p* < .001), and perceived stress (φ = -.329, *SE* = .025, *z* = -13.09, *p* < .001) were significant. The covariance between religiosity and extracurricular involvement was significant (φ = -.177, *SE* = .060, *z* = -2.95, *p* < .01), and the covariance between religiosity and psychological inflexibility was significant (φ = .147, *SE* = .063, *z* = 2.32, *p* < .05). The covariance between psychological inflexibility and perceived stress was significant, φ = .731, *SE* = .046, *z* = 15.85, *p* < .001. The covariance between extracurricular involvement and perceived stress was not significant (φ = -.019, *SE* = .036, *z* = -0.53, *p* > .05), and the covariance between extracurricular involvement and psychological inflexibility was not significant (φ = -.003, *SE* = .059, *z* = -0.55, *p* > .05). The covariance between religiosity and sense of belonging was not significant (φ = .010, *SE* = .074, *z* = 0.14, *p* > .05), and the covariance between religiosity and perceived stress was not significant (φ = .066, *SE* = .038, *z* = 1.73, *p* > .05).

Covariances indicated positive relationships between sense of belonging and extracurricular involvement, sense of belonging and academic self-efficacy, academic self-efficacy and extracurricular involvement, psychological inflexibility and religiosity, and psychological inflexibility and perceived stress. Covariances also indicated negative relationships between psychological inflexibility and sense of belonging, psychological inflexibility and academic self-efficacy, perceived stress and sense of belonging, perceived stress and academic self-efficacy, religiosity and academic self-efficacy, and religiosity and extracurricular involvement. Covariances indicated no relationships between extracurricular involvement and perceived stress, extracurricular involvement

and psychological inflexibility, religiosity and sense of belonging, and religiosity and perceived stress. All variances were also significantly greater than zero for predictors and the residual, $p < .001$.

Standardized and unstandardized parameter estimates were also examined (see Table 8). Sense of belonging significantly predicted flourishing, $B = .087$, $SE = .021$, $z = 4.24$, $p < .001$. Each point increment in sense of belonging resulted in a .087 increment in flourishing. Extracurricular involvement significantly predicted flourishing, $B = .121$, $SE = .022$, $z = 5.47$, $p < .001$. Each point increment in extracurricular involvement resulted in a .121 increment in flourishing. Psychological inflexibility significantly predicted flourishing, $B = -.170$, $SE = .029$, $z = -5.78$, $p < .001$. Each point increment in psychological inflexibility resulted in a .170 decrement in flourishing. Perceived stress significantly predicted flourishing, $B = -.324$, $SE = .052$, $z = -6.26$, $p < .001$. Each point increment in perceived stress resulted in a .324 decrement in flourishing. Academic self-efficacy significantly predicted flourishing, $B = .295$, $SE = .043$, $z = 6.87$, $p < .001$. Each point increment in academic self-efficacy resulted in a .295 increment in flourishing. In consistent with hypothesis 2, religiosity did not significantly predict flourishing, $B = -.034$, $SE = .021$, $z = -1.65$, $p > .05$. In sum, results were consistent with hypothesis 2, except religiosity. Academic self-efficacy, extracurricular involvement, and sense of belonging were positive predictors of flourishing, and perceived stress and psychological inflexibility were negative predictors of flourishing. Overall, perceived stress and psychological inflexibility were the strongest negative predictors, academic self-efficacy was the strongest positive predictor, and religiosity was not a significant predictor of flourishing in the model.

Table 8

Unstandardized Parameter Estimates, Standard Errors (SE), z-*tests, and* p-*values for*

Regression Model Predicting Flourishing

Parameter	Coefficient	*SE*	*z*	*p*
Sense of belonging	.087	.021	4.236	<.001
Extracurricular involvement	.121	.022	5.470	<.001
Religiosity	-.034	.021	-1.652	.098
Psychological inflexibility	-.170	.029	-5.777	<.001
Perceived stress	-.324	.052	-6.261	<.001
Academic self-efficacy	.295	.043	6.868	<.001

Note. All variables are continuous scales. Response options ranged from 1-7 for sense of

belonging; 1-5 for religiosity; 1-7 for psychological inflexibility; 0-4 for perceived stress,

and 1-7 for flourishing. Extracurricular involvement was a frequency variable with 18

possible activities (range 0-8). Academic self-efficacy is a z-score based on responses

from three items assessing confidence in persistence, confidence in grades, and

confidence in employment after graduation (range -2.70 to 0.88).

Emotional Health and Term GPA

Categorical Analysis

An ANOVA was utilized as a categorical analytic approach to examine the relationship between emotional health and academic achievement. Prior to conducting the analysis, participants were coded into four distinct categories based on their levels of mental health and mental illness. Mental health was categorized as: flourishing (Flourishing Scale score of 48 or higher) and not flourishing (Flourishing Scale score of less than 48), based on the threshold used in the Healthy Minds Study (Healthy Minds Network, 2019). Mental illness was categorized as: low (PHQ-9 and GAD-7 scores of less than 10) and moderate or high (PHQ-9 or GAD-7 score of 10 or higher), based on criteria used by Kroenke and colleagues (2001) and Spitzer and colleagues (2006), respectively. Categorization of mental illness and mental health were combined to create four distinct categories: (1) mentally healthy (flourishing, low mental illness), (2) asymptomatic yet discontent (not flourishing, low mental illness), (3) symptomatic yet content (flourishing, moderate/high mental illness), and (4) mentally unhealthy (not flourishing, moderate/high mental illness). Overall, 30.1% of students in the sample were categorized as mentally healthy, 32.6% as asymptomatic yet discontent, 4.7% as symptomatic yet content, and 32.7% as mentally unhealthy. The analysis was conducted using IBM SPSS Version 26.

Descriptive statistics are presented in Table 9. Inconsistent with hypothesis 3, term GPA did not vary based on emotional health categorization, $F(3, 767) = 1.11$, $p > .05$. Additional post-hoc analyses were conducted to explore possible differences based on mental health categorization only and mental illness categorization only. Again, term

GPA did not vary based on mental health [$t(766) = -0.55$, $p > .05$] or mental illness [$t(766) = -1.02$, $p > .05$], including anxiety alone [$t(766) = -1.35$, $p > .05$] and depression alone [$t(766) = -0.83$, $p > .05$].

Table 9

Term GPA by Mental Health Categorization

Categorical variable	*n*	*M*	*SD*
		Term GPA	
Mental health categorization[a]			
Mentally healthy	231	3.23	0.74
Asymptomatic yet discontent	250	3.20	0.80
Symptomatic yet content	36	3.46	0.57
Mentally unhealthy	251	3.25	0.83

Note. Term GPA ranged from 0-4.30. Students were coded into four distinct categories based on their levels of mental health and mental illness. Mental health was be categorized as: flourishing (Flourishing Scale score of 48 or higher) and not flourishing (Flourishing Scale score of less than 48). Mental illness was be categorized as: low (PHQ-9 and GAD-7 scores of less than 10) and moderate or high (PHQ-9 or GAD-7 score of 10 or higher). Categorization of mental illness and mental health were combined to create four distinct categories: (1) mentally healthy (flourishing, low mental illness), (2) asymptomatic yet discontent (not flourishing, low mental illness), (3) symptomatic yet content (flourishing, moderate/high mental illness), and (4) mentally unhealthy (not flourishing, moderate/high mental illness).

[a] No significant main effect, $p > .05$.

Continuous Analysis

One regression model was tested as a continuous analytic approach to investigate the prediction of term GPA by emotional health. I examined the relative ability of mental illness (i.e., anxiety and depression) and mental health (i.e., flourishing) to predict term GPA (see Figure 2). The model was tested using maximum likelihood estimation with IBM SPSS Amos Version 26. Model fit was not evaluated given that the model was just-identified and fit indices were not provided (Kline, 2011).

Figure 2

Regression model predicting term GPA with standardized parameter estimates and R^2
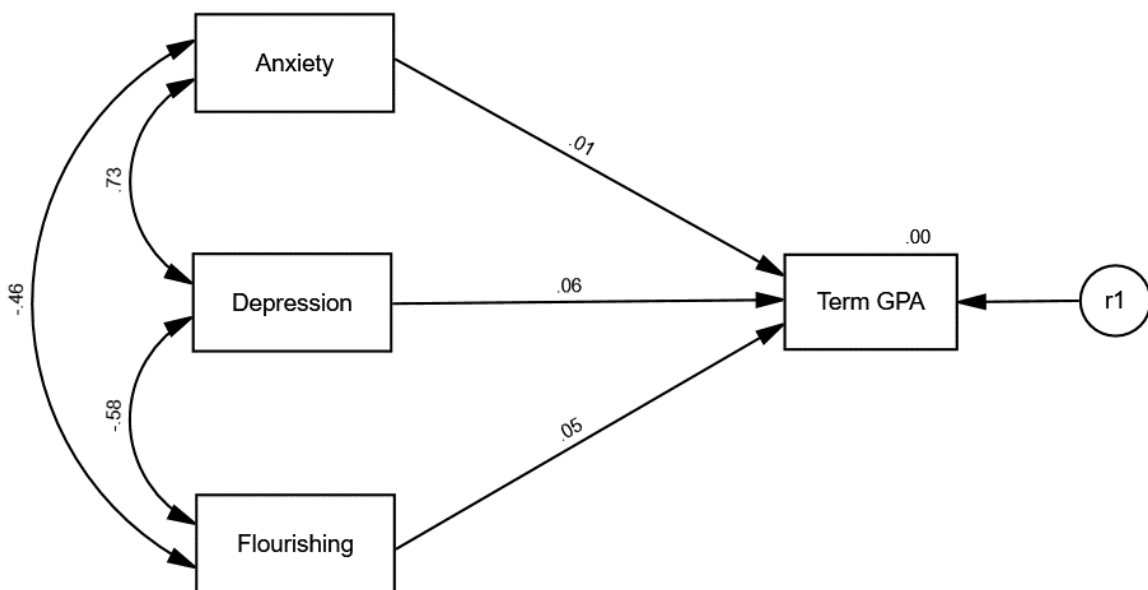
The model with standardized coefficients is illustrated in Figure 2. Term GPA had a squared multiple correlation of .003, indicating that the model explained 0.3% of the total variance in term GPA. The covariance between anxiety and depression was

significant ($\varphi = .343$, *SE* = .021, *z* = 16.280, *p* < .001), the covariance between anxiety

and flourishing was significant ($\varphi = -.346$, *SE* = .030, *z* = -11.477, *p* < .001), and the

covariance between depression and flourishing was significant ($\varphi = -.387$, *SE* = .028, *z* =

-13.918, *p* < .001). Covariances indicate that all variables are related; there is a positive

relationship between anxiety and depression and a negative relationship between these

mental illness indicators and flourishing. All variances were also significantly greater

than zero for predictors and the residual, *p* < .001.

Unstandardized parameter estimates were also examined (see Table 10). Neither

anxiety (*B* = .010, *SE* = .056, *z* = 0.18, *p* > .05), depression (*B* = .076, *SE* = .070, *z* = 1.09,

p > .05), nor flourishing (*B* = .040, *SE* = .034, *z* = 1.20, *p* > .05) significantly predicted

term GPA. Inconsistent with hypothesis 3, results indicated that emotional health did not

significantly predict academic achievement in the model.

Table 10

Unstandardized Parameter Estimates, Standard Errors (SE), z-tests, and p-*values for Regression*

Model Predicting Term GPA

Parameter	Coefficient	*SE*	*z*	*p*
Anxiety	.010	.056	0.177	.860
Depression	.076	.070	1.089	.276
Flourishing	.040	.034	1.203	.229

Note. All variables are continuous scales. Response options for anxiety and depression ranged

from 0-3. Response options for flourishing ranged from 1-7. Term GPA ranged from 0-4.30.

Post-Hoc Analyses: Emotional Health and Academic Self-Efficacy

The findings for term GPA were unexpected. GPA was not associated with any variables except religiosity, and it was especially surprising that it was not associated with academic self-efficacy. To further explore this, I re-conducted the analyses for hypotheses 3 substituting academic self-efficacy for term GPA. Academic self-efficacy was selected given the strong theoretical and empirical support for its positive association with academic performance (Bembenutty & White, 2013; Elias & MacDonald, 2007; Honicke & Broadbent, 2016). It had significant associations with all study variables except term GPA.

Prior to conducting these analyses, a new research question and accompanying hypothesis was developed:

4) **Does flourishing account for unique variance in academic self-efficacy above and beyond the contributions of mental illness symptoms? How do results compare using categorical and continuous analytic approaches to measuring flourishing?**

Based on the continuous analytic approach, mental illness symptoms and flourishing are expected to predict academic self-efficacy, with flourishing being more predictive of academic self-efficacy than mental illness symptoms. Based on the categorical analytic approach, academic self-efficacy is expected to vary based on emotional health categorization; students who are mentally healthy (flourishing, low mental illness) will have the highest level of academic self-efficacy compared to students who are asymptomatic yet discontent (not flourishing, low mental illness), symptomatic yet content (flourishing,

moderate/high mental illness), and mentally unhealthy (not flourishing,

moderate/high mental illness).

Categorical Analysis

An ANOVA was utilized as a categorical analytic approach to examining the

relationship between emotional health and academic self-efficacy. The same four distinct

categories based on levels of mental health and mental illness were utilized: (1) mentally

healthy (flourishing, low mental illness), (2) asymptomatic yet discontent (not

flourishing, low mental illness), (3) symptomatic yet content (flourishing, moderate/high

mental illness), and (4) mentally unhealthy (not flourishing, moderate/high mental

illness). The analysis was conducted using IBM SPSS Version 26.

Descriptive statistics are presented in Table 11. *Welch's F* test was used due to the

homogeneity of variances assumption being violated [*Levene's* test: $F(3, 764) = 25.53$, *p*

$< .001$]. Consistent with hypothesis 4, there was a significant main effect for emotional

health categorization, *Welch's F*$(3, 155.23) = 80.26$, $p < .001$. The estimated omega

squared ($\omega^2 = .23$) indicated that approximately 23% of the total variance in academic

self-efficacy was accounted for by emotional health categorization. Follow-up pairwise

comparisons were conducted using the Games-Howell post hoc procedure given that

equal variances could not be assumed (Games & Howell, 1976). Results indicated that

students who were categorized as mentally unhealthy had significantly lower levels of

academic self-efficacy than those who were categorized as asymptomatic yet discontent,

symptomatic yet content, and mentally healthy, $p < .001$. Students who were categorized

as asymptomatic yet discontent had lower levels of academic self-efficacy than those who

were categorized as mentally healthy, $p < .001$. There was no significant difference

between students who were categorized as symptomatic yet content and those who were categorized as asymptomatic yet discontent and mentally healthy, $p > .05$. Results were consistent with hypothesis 4 and indicated that students who are mentally healthy had the highest level of academic self-efficacy compared to all students except those who are symptomatic yet content.

Table 11

Academic Self-Efficacy by Mental Health Categorization

	Academic self-efficacy		
Categorical variable	*N*	*M*	*SD*
Mental health categorization			
Mentally healthy[a]	231	0.46	0.49
Asymptomatic yet discontent[a,b]	250	0.02	0.66
Symptomatic yet content[c]	36	0.26	0.68
Mentally unhealthy[a,b,c]	251	-0.47	0.83

Note. Shared superscripts represent statistically significant differences, $p < .001$. Academic self-efficacy is a z-score based on responses to three items assessing confidence in persistence, confidence in grades, and confidence in employment after graduation (range -2.70 to 0.88). Students were coded into four distinct categories based on their levels of mental health and mental illness. Mental health was categorized as: flourishing (Flourishing Scale score of 48 or higher) and not flourishing (Flourishing Scale score of less than 48). Mental illness was categorized as: low (PHQ-9 and GAD-7 scores of less than 10) and moderate or high (PHQ-9 or GAD-7 score of 10 or higher). Categorization of mental illness and mental health were combined to create four distinct categories: (1) mentally healthy (flourishing, low mental illness), (2) asymptomatic yet discontent (not flourishing, low mental illness), (3) symptomatic yet content (flourishing, moderate/high mental illness), and (4) mentally unhealthy (not flourishing, moderate/high mental illness).

Continuous Analysis

One regression model was tested as a continuous analytic approach to investigate the prediction of academic self-efficacy by emotional health. I examined the relative ability of mental illness (i.e., anxiety and depression) and mental health (i.e., flourishing) to predict academic self-efficacy (see Figure 3). The model was tested using maximum likelihood estimation with IBM SPSS Amos Version 26. Model fit was not evaluated given that the model was just-identified and fit indices were not provided (Kline, 2011).

Figure 3

Regression model predicting academic self-efficacy with standardized parameter estimates and R^2
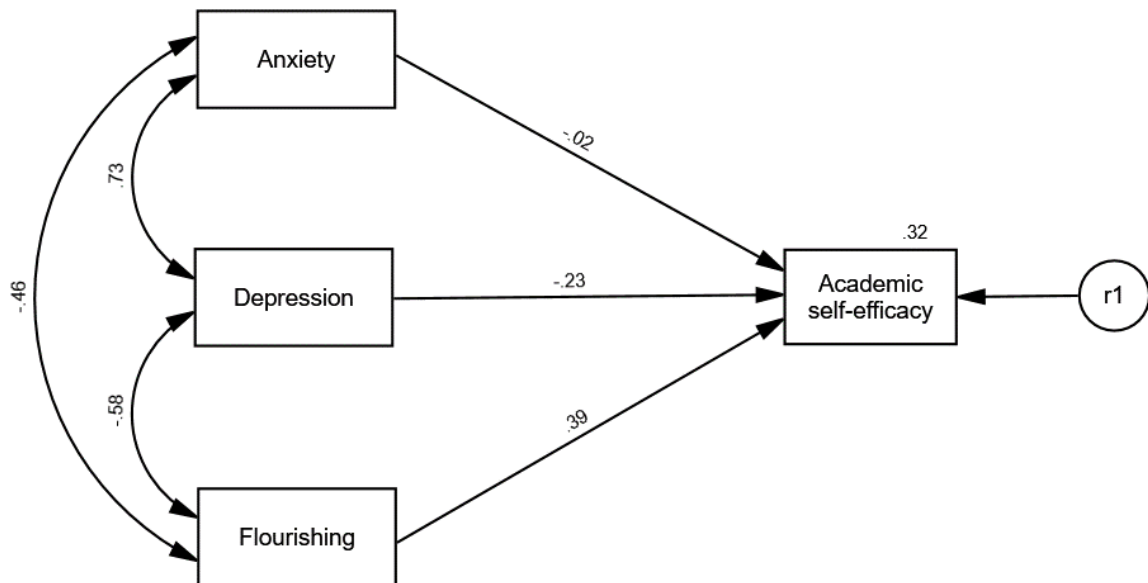
The model with standardized coefficients is illustrated in Figure 3. Academic self-efficacy had a squared multiple correlation of .317, indicating that the model explained 31.7% of the total variance in academic self-efficacy. The covariance between anxiety and depression was significant (φ = .343, SE = .021, z = 16.280, p < .001), the covariance between anxiety and flourishing was significant (φ = -.346, SE = .030, z = -11.477, p < .001), and the covariance between depression and flourishing was significant (φ = -.387, SE = .028, z = -13.918, p < .001). Covariances indicate that all variables are related; there is a positive relationship between anxiety and depression and a negative relationship between these mental illness indicators and flourishing. All variances were also significantly greater than zero for predictors and the residual, p < .001.

Unstandardized parameter estimates were also examined (see Table 12). Depression significantly predicted academic self-efficacy, B = -.271, SE = .057, z = -4.74, p < .001. Each point increment in depression resulted in a .271 decrement in academic self-efficacy. Flourishing significantly predicted academic self-efficacy, B = .288, SE = .027, z = 10.49, p < .001. Each point increment in flourishing resulted in a .288 increment in academic self-efficacy. Anxiety did not significantly predict academic self-efficacy, B = -.026, SE = .046, z = -0.56, p > .05. Consistent with hypothesis 4, results indicated that flourishing was a stronger predictor of academic self-efficacy than depression; however, anxiety was not a significant predictor of academic self-efficacy in the model.

Table 12

Unstandardized Parameter Estimates, Standard Errors (SE), z-tests, and p-*values for*

Regression Model Predicting Academic Self-Efficacy

Parameter	Coefficient	*SE*	*z*	*p*
Anxiety	-.026	.046	-0.561	.575
Depression	-.271	.057	-4.740	<.001
Flourishing	.288	.027	10.489	<.001

Note. All variables are continuous scales. Response options for anxiety and depression

ranged from 0-3. Response options for flourishing ranged from 1-7. Academic self-

efficacy is a z-score based on responses from three items assessing confidence in

persistence, confidence in grades, and confidence in employment after graduation (range

-2.70 to 0.88).

CHAPTER IV

DISCUSSION

Despite experiencing higher levels of mental illness symptoms, college students also have higher rates of psychological well-being than older adults (Westerhof & Keyes, 2010). A broader perspective on college student development encompasses both mental illness and mental health as a more complete understanding of well-being. This dissertation was the first research study to systematically explore level and prevalence of flourishing among college student demographic groups and examine proxy measures for the elements of flourishing using the Diener and colleagues' (2010) Flourishing Scale. Findings highlight the importance of fostering positive mental health on college campuses, rather than a narrower focus on remediating symptoms of mental illness, and supporting flourishing as an important indicator of academic outcomes among college students.

The purpose of this study was to add to the limited research on predictors of flourishing among college students. A series of analyses were used to explore 1) the level of flourishing among demographic subgroups, 2) related constructs as predictors of flourishing, and 3) flourishing and mental illness as predictors of term GPA among college students. Due to the lack of association between term GPA and study variables, a fourth research question was added to explore 4) flourishing and mental illness as predictors of academic self-efficacy among college students. Specifically, this study examined 1) whether flourishing varied as a function of demographic constructs (sex, sexual orientation, first-generation student status, transfer student status, year in school, race/ethnicity, and socioeconomic status), 2) the degree to which proxy elements of

flourishing (academic self-efficacy, extracurricular involvement, perceived stress, psychological inflexibility, religiosity, and sense of belonging) accounted for unique variance in flourishing, 3) whether flourishing accounted for unique variance in term GPA above and beyond anxiety and depression symptoms, and 4) whether flourishing accounted for unique variance in academic self-efficacy above and beyond anxiety and depression symptoms. Both categorical and continuous analytic approaches to measuring flourishing were utilized to explore research questions 3 and 4, given that a previous study found that these approaches yielded different findings for the association between emotional health (i.e., mental illness and mental health) and academic achievement (Renshaw et al., 2016).

In the following paragraphs, findings associated with the research questions and hypotheses are discussed in further detail. First, I present preliminary analysis findings on the correlations between study variables. Next, I discuss results from 1) *t*-tests and analyses of variance on the level of flourishing as well as chi-square tests of independence on the prevalence of flourishing among various student demographic groups, 2) a regression model of various proxy elements predicting flourishing, and 3) an analysis of variance on the association between mental health categorization and term GPA and a regression model predicting term GPA by anxiety symptoms, depression symptoms, and flourishing. Finally, I examine findings from post-hoc analyses consisting of 4) an analysis of variance on the association between mental health categorization and academic self-efficacy and a regression model predicting academic self-efficacy by anxiety symptoms, depression symptoms, and flourishing.

Prior to testing our preliminary hypotheses, I explored associations between flourishing, mental illness symptoms, proxy elements of flourishing, and term GPA. Flourishing was negatively and moderately correlated with anxiety and depression. This finding is consistent with prior research on flourishing, which indicates that mental health and mental illness are distinct but related constructs (Keyes, 2002; Keyes, 2003; Peter et al., 2011). As predicted and consistent with prior research (Agenor et al., 2017; Antaramian, 2015; Fink, 2014), flourishing was positively associated with sense of belonging, extracurricular involvement, and academic self-efficacy, and negatively associated with psychological inflexibility and perceived stress. Contrary to prior research (Peter et al., 2011), flourishing was negatively associated with religiosity. Surprisingly, term GPA was only significantly associated with religiosity, and only to a low degree. This finding is inconsistent with prior research indicating that academic achievement is related to flourishing, mental illness symptoms, and proxy elements of flourishing (e.g., academic self-efficacy; Antaramian, 2015; Awang et al., 2014; Bembenutty & White, 2013; Eisenberg et al., 2009; Howell, 2009). The relationship between term GPA, flourishing, and mental illness indicators is further discussed later in this section.

Flourishing among Demographic Groups

The first research question focused on differences in flourishing as a function of various demographic constructs. Research findings to date have been inconsistent on the associations between demographic indicators and flourishing, and are limited by the lack of exploration of level of flourishing based on certain demographic groups (e.g., first-generation, international, and transfer students). Researchers have made inconsistent

methodological choices on whether flourishing is characterized by a cutoff score or a continuous variable. Prior studies have also primarily utilized the MHC-SF (Keyes, 2002) rather than the Flourishing Scale (Diener et al., 2011), which was used in the current study. Therefore, this research question was exploratory and did not have a priori hypotheses.

Students who identified as sexual minorities had lower levels of flourishing than students who identified as heterosexual. Further, there was a significantly higher prevalence of flourishing among heterosexual (38.8%) than sexual minority students (17.4%). This adds further evidence that having a sexual orientation that is marginalized on campus may be negatively associated with positive mental health, although prior research has found mixed findings on the relationship between sexual orientation and flourishing, measured as a continuous variable using the MHC-SF (Fink, 2014; Peter et al., 2011). This finding compliments a recent study using Healthy Minds Study data that found higher levels of flourishing (as measured by the Flourishing Scale) among cisgender heterosexual students compared to their sexual and gender minority peers (Parr, 2020).

The main difference in findings based on use of flourishing as a cutoff score and continuous variable was for SES. Students with high SES had higher levels of flourishing than students with moderate and low SES. Additionally, the prevalence of flourishing was higher among students with high SES (45.8%) compared to those with low SES (27.0%). While students with moderate SES experienced lower levels of flourishing than those with high SES, this did not translate into a significant difference in the prevalence of flourishing between these students. Overall, findings are consistent with a study that

utilized a subjective measure of SES and flourishing as a continuous variable using the MHC-SF (Peter et al., 2011).

Similar to prior research findings (Fink, 2014; Peter et al., 2011), flourishing did not vary based on year in school or race/ethnicity, either when flourishing was defined with a cutoff score or as a continuous variable. However, this finding is inconsistent with more recent research indicating that flourishing may vary based on race/ethnicity, in studies utilizing the Flourishing Scale and Healthy Minds Study data (Lipson et al., 2018; Parr, 2020). Flourishing also did not vary based on sex in either analysis. While this study measured sex, previous researchers have examined gender, with mixed results on its association with flourishing (Ambler, 2006; Fink, 2014; Peter et al., 2011). This study adds evidence that sex may be less related to positive mental health. Lastly, this was the first study to date to explore the relationship between flourishing and first-generation student status, transfer student status, and international student status. None of the three demographic indicators were significantly associated with flourishing as a cutoff score or as a continuous variable.

The lack of association between flourishing and first-generation student status, as well as flourishing and transfer student status, may suggest that these demographic indicators are not related to positive mental health. Rather, flourishing may be more related to SES than these demographic constructs. For example, there are higher rates of transfer from community colleges to four-year institutions as well as from four-year institutions to other four-year institutions among students with higher SES (Dougherty & Kienzl, 2006; Goldrick-Rab & Pfeffer, 2009). Perhaps the transfer students in the current study are as likely to be flourishing as non-transfer students due to their SES background,

which can buffer against potential negative consequences of transferring colleges on their mental health. However, given that first-generation students are more likely to come from lower SES households (Choy, 2001), it was surprising that there was no difference in flourishing among first-generation and non-first-generation students.

One possible explanation for the similar levels of flourishing experienced by first-generation and non-first-generation students is cultural wealth. Cultural wealth encompasses the assets and strengths possessed by marginalized individuals to resist various forms of oppression (Yosso, 2005). First-generation students can hold several forms of cultural wealth, including aspirational capital (i.e., holding high career aspirations), familial capital (i.e., family support), social capital (i.e., connecting with student organizations), and navigational capital (i.e., finding institutional resources; Garriott, 2020). Higher cultural wealth may help first-generation students to persevere when faced with institutional barriers (i.e., financial challenges, marginalization; O'Neal et al., 2016) as well as to maintain similar levels of flourishing as their non-first-generation peers.

Flourishing and Related Elements

The second research question examined the degree to which proxy elements predicted flourishing. Flourishing was correlated at the bivariate level with all proxy variables. As predicted and consistent with prior studies, academic self-efficacy, extracurricular involvement, and sense of belonging were significantly and positively associated with flourishing (Antaramian, 2015; Fink, 2014; Peter et al., 2011), and perceived stress and psychological inflexibility were significantly and negatively associated with flourishing (Agenor et al., 2017). Specifically, academic self-efficacy and

perceived stress, two indicators of competence, were the strongest positive and negative predictors in the model, respectively. Psychological inflexibility, an indicator of meaning in life, was similar in strength as a predictor of flourishing. To a lesser degree, extracurricular involvement, an indicator of engagement, and sense of belonging, an indicator of positive relationships, also predicted flourishing in the model. Finally, religiosity, another indicator of meaning in life, was not predictive of flourishing.

Current findings are consistent with a study by Coffey and colleagues (2016) on the factor structure of Seligman's (2011) PERMA model; they found achievement (competence), as measured by determination and perseverance, contributed most to the model. Together with current findings, this indicates that competence may lead to flourishing more than other elements. Additionally, it was surprising that religiosity did not significantly predict flourishing considering that flourishing and religiosity were significantly correlated at the bivariate level. In a prior study by Peter and colleagues (2001), college students who were more religious/spiritual had higher positive mental health; however, religiosity was negatively associated with flourishing in this study. This suggests that higher levels of religiosity may negatively impact flourishing, or that those with lower levels of flourishing may use religion as a coping mechanism. While there is some evidence that religiosity is related to flourishing, this was not found in the current study. With the exception of religiosity, results suggest that these proxy elements for flourishing are potential mechanisms that may help explain why students flourish.

Emotional Health and Term GPA

The third research question proposed that flourishing would account for significant variance in term GPA above and beyond symptoms of mental illness (i.e.,

anxiety and depression), with comparisons between categorical and continuous analytical approaches. Based on the categorical approach, term GPA did not vary based on mental health categorization. Based on the continuous approach, neither flourishing nor mental illness symptoms predicted term GPA. Given the lack of correlation at the bivariate level between term GPA and flourishing, anxiety, and depression, it is not surprising that mental health and mental illness did not contribute to the variance in term GPA in either analytic approach. Therefore, a fourth research question was developed with a similar aim to understand how mental health and mental illness predict academic self-efficacy.

Emotional Health and Academic Self-Efficacy

The fourth research question proposed that flourishing would account for significant variance in academic self-efficacy above and beyond symptoms of mental illness (i.e., anxiety and depression), across both categorical and continuous analytical approaches. While term GPA measured the academic performance of students during the term in which they participated in the study, academic self-efficacy referred to students' beliefs that they could succeed in college and beyond (Clark, 2016; Lewis et al., 2017). Prior studies have found that academic self-efficacy is positively associated with flourishing (Fink, 2014; Lipson & Eisenberg, 2018). Academic self-efficacy was correlated at the bivariate level with all study variables except term GPA. The lack of association between academic self-efficacy and term GPA was surprising given the strong association between academic self-efficacy and academic performance documented in previous studies (Bembenutty & White, 2013; Elias & MacDonald, 2007; Honicke & Broadbent, 2016). This likely indicates issues with the use of term GPA as the outcome variable.

The reliability of term GPA may provide explanations for the lack of significant association with other study variables. Term GPA may be a less reliable measure of academic performance. For example, the measurement of term GPA may be impacted by grade inflation, which can decrease its reliability. Additionally, the smaller number of course grades that are used to calculate term GPA, compared to cumulative GPA, can also lead to lower reliability (Bacon & Bean, 2006). Term GPA also only indicates one type of academic success and does not encompass other key academic outcomes, such as college persistence and degree attainment (Johnson, 2008; York et al., 2015). This study was not able to assess the validity of term GPA as a measurement of academic success, given that no other study variables assessed academic performance, and term GPA is a narrow indicator of academic success. Due to these measurement issues, it may be that academic self-efficacy is a better indicator of students' academic outcomes in the current study, especially given that academic self-efficacy is a strong predictor of academic success (Robbins et al., 2004).

Based on the categorical approach, students who were mentally healthy had a higher level of academic self-efficacy compared to students who were asymptomatic yet discontent and mentally unhealthy, but were not significantly different from students who were symptomatic yet content. This was mostly consistent with the hypothesis that students who were categorized as mentally healthy would have the highest level of academic self-efficacy compared to all other students. This finding may be impacted due to lack of power given the small number of students who were categorized as symptomatic yet content ($n = 36$). Given the few students who were symptomatic yet content and the greater number of students who were mentally healthy, it appears that it is

more common for students who are flourishing to experience little to no mental illness symptoms. However, given the similar number of students who were mentally unhealthy or asymptomatic yet discontent, it appears to be equally common for students who are not flourishing to experience moderate to severe mental illness symptoms or little to no mental illness symptoms.

Additionally, students who were mentally unhealthy had the lowest level of academic self-efficacy compared to all other students. This is consistent with research showing flourishing is associated with higher academic self-efficacy (Fink, 2014; Lipson & Eisenberg, 2018), while anxiety and depression are associated with lower self-efficacy (Grøtan, Sund, & Bjerkeset, 2019; Muris, 2002; Sim & Moon, 2015). The categorical analysis results indicate that students who experience mental illness symptoms and are not flourishing have the lowest beliefs in their abilities to succeed academically. Overall, the presence of mental health and the absence of mental illness symptoms are important factors to consider regarding students' beliefs that they can succeed academically.

Based on the continuous approach, flourishing and depression, but not anxiety, predicted academic self-efficacy. Flourishing was the strongest predictor of academic self-efficacy in the model. The directionality of this finding is unclear, given that another study found academic self-efficacy to be a significant predictor of flourishing (Fink, 2014). For example, it is unclear whether students' mental illness symptoms depress their beliefs in their abilities to succeed academically, or lower academic self-efficacy worsens students' emotional health (Grøtan et al., 2019; Robbins et al., 2004). Surprisingly, anxiety was not a significant predictor of academic self-efficacy in the model. This is consistent with research showing that depression, but not anxiety, predicted academic

self-efficacy among adolescents, when controlling for levels of trait anxiety/neuroticism (Muris, 2002). Overall, results indicate that flourishing predicts college students' beliefs that they can successfully achieve their academic goals above and beyond mental illness symptoms.

Limitations

There are several limitations based on the method utilized in this study. This study used a non-experimental design with conclusions based on self-reported data. As a result, the findings are non-directional and no assertions regarding the cause and effect can be made. While the survey was sent to a random representative sample of students at the university, only a small portion of students (19%) responded to the survey. It is unclear if students who did and did not respond to the survey differed significantly with respect to study variables. Considering this context, the sample may not be representative of all college students attending the university at that time. It is also possible that participants may have underreported mental illness symptoms in order to present the best versions of themselves. Term GPA was obtained from the Office of the Registrar to minimize this bias for self-reported grades.

The timing of the study may also impact current results. The measures of anxiety and depression (i.e., GAD-7 and PHQ-9, respectively) assess symptoms over the last two weeks. It is possible that students' symptoms may change over the course of the term, such as increasing when they experience more family distress or take final examinations. Therefore, scores on the GAD-7 and PHQ-9 may not be consistent representations of students' level of mental illness symptoms throughout the term. GPA for the term in which students completed the survey was also obtained from the Office of the Registrar.

Since it is a representation of students' academic achievement across the term, it may not represent the level of academic success that students were experiencing when they took the survey. For example, students' test scores may have improved as they received mental health treatment or academic accommodations during the term. Together, this indicates that variations in symptom levels and academic performance may occur throughout the term and in a manner that obfuscates associations between anxiety and depression symptoms and term GPA.

The measurement of academic self-efficacy and SES may also present challenges. Three items from the survey were used to create a scale of academic self-efficacy. While the EFA indicated a one-factor structure with moderate to high item loadings, the reliability of the scale was low. More robust measures of academic self-efficacy may lead to different results in future studies. Additionally, current perceived financial stress was used to approximate SES. This may have led to conflation of SES with financial stress, leading to more students at the extreme ends than is accurate for the student body. For example, some students may have been often worried about money despite coming from middle class households in which they have enough to meet their needs. Future research should examine other methods for obtaining information on SES, including both objective (i.e., parents' education level; Ambler, 2006) and subjective measures (i.e., status ladder; Peter et al., 2011) for more nuanced findings.

Further, the selection of proxy elements is an important limitation of this study. There is a considerable lack of measures of positive mental health in the Health Minds Study, including measures of positive emotion and self-esteem (Healthy Minds Study, 2020). Therefore, this study cannot explain the potential role of these two elements in

predicting flourishing. Selected constructs also present challenges due to the limited measures that were available in the survey. Extracurricular involvement, the proxy element for engagement, represents only one aspect of engagement on campus. Additionally, this variable was measured as the number of activities that the student participates in; this narrowly limits the scope of engagement by equating more extracurricular activities to higher engagement on campus. Therefore, students who participate passively in several programs are seen as more engaged than students who actively participate in one program.

Similar critiques can be made regarding other measures utilized in the study. Sense of belonging, the proxy element for positive relationships, measures feelings of academic fit but does not capture the support network that the student may have created on and off campus (Clark, 2016; Walton & Cohen, 2007). Religiosity, a proxy element for meaning in life, narrowly reduces finding purpose to those who are affiliated with a religion. The measure used to assess psychological inflexibility, another proxy element for meaning in life, assesses cognitive coping more than finding a direction in life (Bond et al., 2011). Overall, researchers should consider selecting measures that have been used in previous studies on flourishing in order to compare which are the strongest elements predicting flourishing (Coffey et al., 2016; Fink, 2014). Research teams on college campuses may also consider the option of paying for additional items to be added to the Healthy Minds Study survey in order to address some of the limitations related to the measures on the standardized version of the survey (Healthy Minds Study, 2021).

Results may be influenced by a lack of power given the small group of students that were categorized as symptomatic yet content. Previously, researchers have combined

the students who were categorized as symptomatic yet content and asymptomatic yet discontent into one group (i.e., moderate mental health; Keyes, 2012). While there were no significant differences between students in these groups based on academic self-efficacy, there are substantive differences that are important to consider. For example, it is possible that students categorized as symptomatic yet content received mental health treatment that improved their well-being despite experiencing persistent anxiety or depression. Additionally, students who were asymptomatic yet discontent differed significantly in academic self-efficacy from their peers who were mentally unhealthy, but not those who were mentally healthy. This suggests higher resilience among those who are symptomatic yet content, which allows these students to maintain higher beliefs that they can reach their academic goals than students who are mentally unhealthy. Future studies should consider further exploration of the unique characteristics of students who are flourishing despite experiencing symptoms of mental illness.

Finally, students with diverse identities were grouped together into general categories of 'sexual minority' and 'student of color' due to the small sample sizes for distinct subgroups comprised these diverse demographic groups, which precluded conducting more nuanced analyses regarding specific demographic groups and the intersection of identities. For instance, I was not able to explore how students who identify as gay or pansexual may experience different levels of flourishing. It is also possible that this limitation may hide real differences in level and prevalence of flourishing, such as among various racial/ethnic groups (e.g., between Asian and Latinx students; Lipson et al., 2018).

Implications for Future Research

The Flourishing Scale (Diener et al., 2010) is a measure utilized in the Healthy Minds Study (Healthy Minds Network, 2020) to understand the prevalence of positive mental health among students on college campuses. Despite wide use, there is limited research on flourishing as measured with the Healthy Minds Study data as well as the cutoff score used to assess the prevalence of flourishing. Considering that flourishing is related to academic performance, engagement, and mental illness (Keyes, 2007; Keyes et al., 2012; Parker et al., 2018; Schotanus-Dijkstra et al, 2016b), further research is needed to understand how measurement of flourishing as well as associations between flourishing and demographic indicators, its elements, and academic achievement differs based on the selected measure. This may include explicit discussion of reasons for selecting a specific measure over other measures of flourishing. Further, the four conceptualizations of flourishing differ in their definitions and theoretical foundations (Agenor et al., 2017). These differences translate to substantive variation in prevalence of flourishing in a given population based on the flourishing measure utilized (Hone et al., 2014). This may also complicate comparisons among research studies that use different measures of flourishing, making it difficult to increase understanding of the experience of flourishing among various populations.

Additionally, in the initial validation study for the Flourishing Scale, Diener and colleagues (2010) did not justify a specific cutoff score for flourishing; however, a score of 48 has been utilized across studies, including the Healthy Minds Study (Healthy Minds Network, 2019). This score requires an average response of 6 (agree) across items on a measure with a scale consisting of 7 response options (1 = strongly disagree, 7 = strongly agree). This suggests that only students who are consistently endorsing the highest

response options on the scale will meet the cutoff for flourishing. Research studies utilizing item response theory (IRT) can assess measurement validity by elucidating the relationship between flourishing, properties of the items on the scale, and response patterns to individual items (Yang & Kao, 2014). More psychometric studies are needed to determine the most valid cutoff score for flourishing when using the Flourishing Scale.

There were similar overall findings for the associations between demographic indicators and flourishing, measured as a continuous variable and as a cutoff score. However, there is a lack of consistency in methodological choice among researchers (Ambler, 2006; Fink, 2014; Peter et al., 2011; Schotanus-Dijkstra et al., 2016a). While the continuous measurement of flourishing can be more sensitive to potential variation and allows for understanding of the level of flourishing among students, I recommend the use of flourishing as a cutoff score given the practical utility of understanding the prevalence of flourishing among specific populations. College campus administrators and counselors can more quickly identify groups of students who may benefit from health promotion efforts when they are aware of the proportion of students who are flourishing. Similarly, potential students may use the prevalence of flourishing on a college campus as a key metric for identifying higher education institutions that may foster their well-being (Larson, 2018). Prevalence rates also allow for quick comparisons with national data and data from other colleges and universities to understand how students on one campus compare to the larger college student population (Healthy Minds Network, 2020). Overall, researchers should consider the practical utility of prevalence rates compared to level of flourishing when considering methodological choices to the measurement of flourishing among student groups.

Results demonstrated that mental illness and positive mental health are related to the academic self-efficacy of college students. Considering the associations between depression, flourishing, and academic self-efficacy, future researchers should examine flourishing as a moderator for the relationship between mental illness symptoms and academic achievement. It is also recommended to apply a multidimensional approach to understanding the relationship between flourishing and its elements. For example, additional studies are needed to explore how all elements of flourishing are related to the construct as well as the distinct benefits of each element using well-defined variables for this purpose (Snyder, Lopez, & Pedrotti, 2011). This includes the consideration of positive emotion and self-esteem, which were not included in the present study, as well as comparing different theories on flourishing against each other to understand its most predictive elements.

Further, previous research on flourishing has yet to explore additional elements that may be related to flourishing for specific demographic groups. Given that Seligman (2018) noted that the PERMA model is not an exhaustive list of elements, future studies are needed to explore additional elements that may comprise the construct of flourishing for specific populations, such as the potential inclusion of acculturation for international students or ethnic identity for students of color (Constantine & Sue, 2006; Suh & Koo, 2008). Programs designed to promote flourishing may also elucidate findings on change factors by measuring flourishing elements. Longitudinal study designs can help illuminate directionality of current findings as well as how level of flourishing changes over time, such as the transition from high school to college or from term to term during the academic year (Coffey et al., 2016; Schotanus-Dijkstra et al., 2016b).

Due to the lack of association between term GPA and most study variables, future researchers may choose to explore the best measures of academic achievement for inclusion in similar studies. For example, Bacon and Bean (2006) recommend use of cumulative GPA since it has stronger reliability and validity, as well as explains the most variance in academic performance, compared to major GPA and term GPA. Additionally, researchers may choose to examine other aspects of academic success, such as the acquisition of skills and competencies (e.g., academic skills, critical thinking); attainment of learning outcomes (e.g., course evaluations, GRE scores); career success (e.g., career satisfaction, job attainment rates); persistence (e.g., graduation rates, retention); and satisfaction (e.g., course experience, overall college experience; York et al., 2015). The current study also indicated different findings and interpretations based on the analytic method used to measure flourishing. Therefore, along with Renshaw and colleagues (2016), I also recommend use of both categorical and continuous analytic approaches to understanding the role of mental illness and mental health on academic outcomes. Considering the associations between sexual orientation and SES based on level of flourishing, more research is needed to examine specific barriers to positive mental health for students who identify as sexual minorities and experience high financial stress (Beiter et al., 2015; Kalra et al., 2012).

Future research should also use a larger sample that includes more representation by various student groups that are marginalized on campus to explore nuances in positive mental health among students with diverse identities, as recommended by Lipson and colleagues (2018). This includes taking an intersectional approach to understanding flourishing by exploring how axes of privilege and oppression intersect and affect

flourishing (Grzanka & Moradi, 2017). For example, researchers may choose to examine the social inequities (e.g., racism) experienced by specific groups of students (e.g., queer students of color) as well as the potential privilege held by other students on campus (e.g., queer White students). Exploring power dynamics on college campuses can help to elucidate the effects of these systemic issues on flourishing. Due to the lack of literature on flourishing among first-generation, international, and transfer students, more research is needed to understand how these populations experience flourishing on college campuses, including emphasis on sociocultural systems impacting these students (e.g., classism, xenophobia; Beiter et al., 2015; Stebleton, Soria, & Huesman, 2014). Future researchers should explore additional sociodemographic factors (e.g., documentation status; Cardenas & Nienhusser, 2021) and sociopolitical events (e.g., COVID-19 pandemic; Perk, 2021) to further understand the roles of personal and contextual factors on flourishing.

Along with other researchers, Hefferon and colleagues (2017) 'call for qual' in positive psychology to extend current (quantitative) methodologies to contextualize findings and gain deeper insights into the elements of flourishing. For example, focus groups and case studies can increase understanding of how diverse college students experience flourishing and add qualitative insights to experiences that impact flourishing among specific populations (Perk, 2021). Additionally, the current study does not provide information on the potential role of flourishing as a moderator for negative life events among students who are marginalized on campus (Prizmić-Larsen et al., 2020). Replications of the current study are also needed at a range of higher education

institutions, such as community colleges, historically Black colleges, and private colleges (Martin, 2016; Mushonga & Henneberger, 2020).

Implications for Practice

Due to the non-experimental research design, this study cannot provide information on causality or the directionality of findings. Therefore, implications are limited. One effective strategy for enhancing flourishing is mental health promotion, which involves strategies that strengthen protective factors and enhance well-being (Cutcliffe & McKenna, 2011; Jané-Llopis, 2005; Petersen et al., 2014). Common attributes of mental health promotion include creating conditions to empower students, opportunities for student participation, and partnerships across departments (Tamminen et al., 2016). Mental health promotion can be universal (all students), selected (targeted groups with significant risks), or indicated (targeted to high-risk individuals), based on the need and resources at an institution (Kalra et al., 2012). The majority of students in this study did not report high level of flourishing, indicating a need to promote the positive mental health of students across campus. All individuals, regardless of whether they suffer from mental illness or are at risk for developing mental illness, may benefit from mental health promotion (Kalra et al., 2012). The associations between demographic indicators (i.e., sexual orientation, socioeconomic status) and flourishing in the context of the larger literature on positive mental health indicate a need to improve the experience of students who identify as sexual minorities and students who experience high financial stress on college campuses (Beiter et al., 2015; Kalra et al., 2012). Continued assessment of flourishing on campus can also help assess the university climate and identify students at risk for mental illness and academic problems.

When implemented effectively, school-based mental health promotion can be effective and produce long-term benefits, such as improved academic, emotional, and social functioning (Barry, 2013). Additional strategies for promoting flourishing among students include first-year interest groups (FIGs) that create an academically and socially supportive setting for students during their transition to college as well as school-wide health promotion initiatives that enhance protective factors (e.g., engagement, health, sense of belonging, spirituality) that help students flourish on campus (Antaramian, 2015; Fink, 2014; Peter et al., 2011). Positive psychology interventions that target the various elements of flourishing (e.g., positive emotions, personal strengths, purpose in life, personal growth) can increase positive mental health among college students (Gorbeña et al., 2021). Considering that proxy variables for competence were the greatest predictors of flourishing, more research will clarify whether fostering competence can be a strong intervention for increasing positive mental health among college students. For example, van Zyl and Stander (2019) suggest balancing skill sets with goals, creating SMART goals, and receiving continuous feedback as practices for fostering competence.

Flourishing predicted academic self-efficacy above and beyond depression symptoms, suggesting that higher flourishing may be more related to academic success than mental illness. More research on flourishing and its potential effects on academic outcomes is needed to justify developing related academic and health promotion initiatives. For instance, additional research is needed to understand the mechanisms by which flourishing and mental illness symptoms may interact to impact academic success. However, there is some evidence that positive mental health interventions can promote positive academic outcomes, including educational performance and student retention

(Hill, 2018; Ruini, 2017; Schotanus-Dijkstra et al., 2018; Seligman, 2011; World Health Organization, 2005).

Finally, these findings demonstrate that the absence of mental illness symptoms is not sufficient for mental health. Mental health providers working with college students should assess for well-being in addition to traditional evaluations of mental illness (Provencher & Keyes, 2011; Renshaw et al., 2016). Monitoring both mental illness symptoms and positive mental health can aid in a more complete mental health recovery as well as help to better understand improvements in clients (Trompetter et al., 2017). For example, the four-front approach (Wright & Lopez, 2002) addresses both mental illness and positive mental health for a more comprehensive mental health assessment; this approach involves gathering information regarding: 1) personal deficits, 2) personal strengths, 3) environmental risk factors, and 4) environmental resources and opportunities. This approach has positive effects on the therapeutic alliance since it encourages conversations regarding clients' strengths as well as environmental resources that can promote flourishing (Snyder et al., 2011). While these features can be present in traditional mental health counseling, they tend to be utilized to address clients' mental illness symptoms rather than directed towards enhancing their well-being (Provencher & Keyes, 2011). However, research findings indicate that fostering flourishing can also have benefits for students' mental illness symptoms, including as a protective factor in suicide risk assessments (Teismann et al., 2018) and for sustainable recovery from substance use disorders (Parker et al., 2018). Overall, there is evidence that mental health promotion and positive psychology interventions enhance well-being, reduce the risk for mental illness, decrease mental illness symptoms (i.e., anxiety, depression, stress), and

lead to additional benefits, such as better academic outcomes, increased productivity, and improved relationships (Hendriks et al., 2020; Tamminen et al., 2016).

Conclusion

This study adds to the limited research on predictors of flourishing among college students by documenting how various demographic indicators and proxy elements are related to this construct as well as by demonstrating that mental health is an important consideration for academic outcomes among college students. Mental health promotion strategies for college campuses should consider targeting students who identify as sexual minorities and experience high financial stress in addition to raising students' perceptions of their academic competence. Positive psychology interventions may also decrease students' mental illness symptoms as well as improve their academic success. Areas for future research include expanding current findings on demographic indicators related to flourishing, exploring the complex relationship between flourishing and its related elements, and utilizing longitudinal designs to clarify the directionality of current findings. Understanding how flourishing impacts college students above and beyond mental illness symptoms is critical to ensure that they can thrive and not just survive during the college experience.

Flourishing Elements and Associated Measures from the Healthy Minds Study

	Measure	**Description**	**Items**
Positive Emotion	*No indicators of emotional well-being in HMS survey*		
Engagement	Extracurricular involvement	Frequency scale, with higher scores indicating involvement in more types of extracurricular activities	What activities do you currently participate in at your school?
Positive Relationships	Sense of belonging* (Clark, 2016; Walton & Cohen, 2007)	3 items measuring academic fit 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree)	• I feel confident that I belong at [university] • I sometimes feel that people at [university] do not accept me (R) • I worry that I am an outsider at [university] (R)
Meaning	Religiosity	5-point Likert scale ranging from 1 (Very important) to 5 (Very unimportant)	How important is religion in your life? (R)
	Acceptance and Action Questionnaire-II (Bond et al., 2011)	7 items measuring psychological inflexibility and cognitive coping 7-point Likert scale ranging from 1 (Never true) to 7 (Always true)	• My painful experiences and memories make it difficult for me to live a life that I would value • I'm afraid of my feelings • I worry about not being able to control my worries and feelings • My painful memories prevent me from having a fulfilling life • Emotions cause problems in my life • It seems like most people are handling their lives better than I am • Worries get in the way of my success

	Measure	**Description**	**Items**
Competence	Perceived Stress Scale-4* (Cohen, Kamarck, & Mermelstein, 1983)	4 items measuring the degree to which situations are appraised as stressful 5-point Likert scale ranging from 0 (Never) to 4 (Very often)	• How often have you felt that you were unable to control the important things in your life? • How often have you felt confident about your ability to handle your personal problems? (R) • How often have you felt that things were going your way? (R) • How often have you felt difficulties were piling up so high that you could not overcome them?
	Academic self-efficacy* (Clark, 2016; Lewis et al., 2017)	2 items measuring academic confidence 7-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree)	• I am confident that I can earn a B or better grade in all my courses this term • I am confident that I can find employment after I graduate
	Confidence in persistence (indicator of academic self-efficacy)	6-point Likert scale ranging from 1 (Strongly agree) to 6 (Strongly disagree)	• I am confident that I will be able to finish my degree no matter what challenges I may face (R)
Self-Esteem	*No indicators of self-esteem in HMS survey*		

Note. Measures indicated with an asterisk were added to the Healthy Minds Study survey by the university research team. Items indicated with (R) are reverse coded.

APPENDIX B

THE HEALTHY MINDS STUDY (HMS): QUESTIONNAIRE MODULES AND SURVEY ENDINGS

MENU OF MODULES:

	Number of Items
Standard Modules[1]	
(1) Demographics	26-32
(2) Mental Health Status	28-60
(3) Mental Health Service Utilization/Help-Seeking	15-47
Elective Modules[2]	
(4) Substance Use	22-24
(5) Sleep (*half module*)	12-13
(6) Eating and Body Image	25-28
(7) Sexual Assault	26-44
(8) Overall Health	21-40
(9) Knowledge and Attitudes about Mental Health and Mental Health Services	25-28
(10) Upstander/Bystander Behaviors (*half module*)	8-12
(11) Campus Climate and Culture	16
(12) Competition	12
(13) Resilience and Coping	13
(14) Persistence and Retention	26-28
(15) Financial Stress	10

Notes: [1]Standard modules are fielded at all participating institutions. [2]Elective modules are chosen by participating institution from the options listed above. To ensure that the overall survey (standard modules+elective modules) remains reasonable in length, participating institutions typically choose 2 elective modules (2 half modules can be combined to account for 1 module). The number of items per module is determined by 2 factors: (1) skip logic embedded within the survey (i.e., some measures are assessed only for students with certain responses to survey items), and (2) which elective modules are selected by the participating institution. In terms of the order of modules presented to students, the 'Demographics' module is always first, followed by the 'Mental Health Status' module; the order of the remaining modules varies based on which elective modules are selected.

ABOUT THIS DOCUMENT:

Contents:

This document outlines all survey items included in HMS, beginning with the standard modules ('Demographics', 'Mental Health Status', and 'Mental Health Service Utilization/Help-Seeking') and then the elective modules. The final pages of the document include the survey endings (shown to student participants upon completing the survey).

Each module is presented within a table. Above each table is the module name (in all capital letters, bolded and underlined). Directly beneath the module name is the text shown to student participants at the beginning of that module. For example, students beginning the 'Demographics' module see the following text above the first question in that module: "Basic Information: *This section will ask you to provide basic information about yourself*". Information in the column 'Section' outlines organization within the module and is not visible to students within the survey.

Color Coding:

As noted above, some items are based on embedded skip logic within the survey (i.e., some measures are assessed only for students with certain responses to survey items). For example, only students who respond "No" to the question "Are you a United States citizen (or permanent resident)?" are asked the follow-up question "What is your country of citizenship (passport country)?". This follow-up question is shown in gray, indicating that the item is based on embedded skip logic.

HMS is a web-based survey. As such, there are numerous coding and programming decisions (*the vast majority of which are rather boring so we'll spare you*). A few are important: for example, many items allow student respondents to "Select all that apply". In some cases, one of the response options is 'mutually exclusive' meaning that a student respondent who selects that response option cannot select any of the other options (e.g., the response category "None" is mutually exclusive for the item "What activities do you currently participate in at your school?"). Programming notes are included in blue within the module tables.

Finally, certain items within the standard modules include a note in red (in the 'Citation/Notes' column) indicating that the item is included only if the elective module on that topic is not selected. In other words, a small number of items about important topics are included even if the elective module on that topic is not selected. This ensures that institutions have basic information about important topics that are not selected for in-depth assessment through elective modules. For example, if an institution does not select the 'Sleep' half module, a small number of items about sleep habits are included in the 'Mental Health Status' module. If an institution does select the 'Sleep' half module, the items about sleep are not included in the 'Mental Health Status' module (because sleep habits are being assessed separately in more detail through the 'Sleep' half module).

To review:

ITEM
BASED
ON
EMBEDD
ED SKIP
LOGIC
LOGISTIC
/PROGRA
MMING
NOTES
ITEM INCLUDED IF ELECTIVE MODULE ON THAT TOPIC NOT SELECTED

STANDARD MODULES:

(1) DEMOGRAPHICS

Basic Information
This section will ask you to provide basic information about yourself. Remember that your responses are confidential and you may choose to skip questions or stop responding at any point.

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Age	How old are you? (You must be 18 years or older to complete this survey.)	1=_____years old	
Sex/gender/sexuality	What was your sex at birth?	1=Female 2=Male 3=Intersex	Based on guidance from the Trevor Project SDS90
	What is your gender identity?	1=Male 2=Female 3=Trans male/Trans man 4=Trans female/Trans woman 5=Genderqueer/Gender non-conforming 6=Self-identify (please specify)	Based on guidance from the Trevor Project SDS88 SDS89: Self-identify gender identity (free response)
	How would you describe your sexual orientation?	1=Heterosexual 2=Lesbian 3=Gay 4=Bisexual 5=Questioning 6=Self-identify (please specify)	SDS91 SDS92: Self-identify sexual orientation (Free response)
	How would you characterize your current relationship status?	1=Single 2=In a relationship 3=Married, in a domestic partnership, or engaged 4=Divorced or separated 5=Widowed 6=Other (please specify)	
Race/ethnicity	What is your race/ethnicity? (Select all that apply)	1=African American / Black 2=American Indian or Alaskan Native 3=Asian American / Asian 4=Hispanic / Latino/a 5=Native Hawaiian or Pacific Islander 6=Middle Eastern, Arab, or Arab American 7=White 8=Self-identify (please specify)	SDS95 SDS29: Self-identify race/ethnicity (Free response)
Citizenship	Are you an international student?	1=Yes 0=No	Adapt for non-U.S. colleges and universities SDS32
	What is your country of origin?	1=Afghanistan 2=Albania 3=Angola 4=Antigua and Barbuda 5=Argentina 6=Armenia 7=Australia 8=Austria 9=Azerbaijan 10=Bahamas 11=Bahrain 12=Bangladesh 13=Barbados 14=Belarus	Instructions for this item: "(Use command or control key to select more than one country.)" Adapt for non-U.S. colleges and universities SDS31

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		15=Belgium	
		16=Belize	
		17=Bolivia	
		18=Bosnia and Herzegovina	
		19=Brazil	
		20=Brunei	
		21=Bulgaria	
		22=Burma	
		23=Burundi	
		24=Cambodia	
		25=Cameroon	
		26=Canada	
		27=Central African Republic	
		28=Chile	
		29=China	
		30=Colombia	
		31=Congo, The Democratic Republic	
		32=Costa Rica	
		33=Cote d'Ivoire	
		34=Croatia	
		35=Cyprus	
		36=Czech Republic	
		37=Denmark	
		38=Dominica	
		39=Dominican Republic	
		40=Ecuador	
		41=Egypt	
		42=El Salvador	
		43=Estonia	
		44=Ethiopia	
		45=Finland	
		46=France	
		47=Gabon	
		48=Gambia	
		49=Gaza Strip	
		50=Georgia	
		51=Germany	
		52=Ghana	
		53=Greece	
		54=Guatemala	
		55=Guinea	
		56=Guyana	
		57=Haiti	
		58=Honduras	
		59=Hungary	
		60=Iceland	
		61=India	
		62=Indonesia	
		63=Iran	
		64=Iraq	
		65=Ireland	
		66=Israel	
		67=Italy	
		68=Jamaica	
		69=Japan	
		70=Jordan	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		71=Kazakhstan	
		72=Kenya	
		73=North Korea	
		74=South Korea	
		151=Kosovo	
		75=Kuwait	
		76=Kyrgyzstan	
		77=Laos	
		78=Latvia	
		79=Lebanon	
		80=Lithuania	
		81=Luxembourg	
		82=Macedonia	
		83=Madagascar	
		84=Malawi	
		85=Malaysia	
		86=Mali	
		87=Mauritania	
		88=Mauritius	
		89=Mexico	
		90=Moldova	
		91=Mongolia	
		92=Morocco	
		93=Mozambique	
		94=Namibia	
		95=Nepal	
		96=Netherlands	
		97=New Zealand	
		98=Nicaragua	
		99=Nigeria	
		100=Norway	
		101=Oman	
		102=Pakistan	
		103=Panama	
		104=Paraguay	
		105=Peru	
		106=Philippines	
		107=Poland	
		108=Portugal	
		109=Qatar	
		110=Romania	
		111=Russia	
		112=Saint Kitts and Nevis	
		113=Saint Lucia	
		114=Saudi Arabia	
		115=Senegal	
		116=Serbia	
		117=Sierra Leone	
		118=Singapore	
		119=Slovakia	
		120=Slovenia	
		121=South Africa	
		122=Spain	
		123=Sri Lanka	
		124=St Vincent and the Grenadines	
		125=Sudan	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		126=Swaziland 127=Sweden 128=Switzerland 129=Syria 130=Taiwan 131=Tanzania 132=Thailand 133=Trinidad and Tobago 134=Tunisia 135=Turkey 136=Turkmenistan 137=Uganda 138=Ukraine 139=United Arab Emirates 140=United Kingdom 141=Uruguay 142=Uzbekistan 143=Venezuela 144=Vietnam 145=West Bank 146=Yemen 147=Yugoslavia 148=Zambia 149=Zimbabwe 150=Other	
Socioeconomic status	How would you describe your financial situation right now?	1=Always stressful 2=Often stressful 3=Sometimes stressful 4=Rarely stressful 5=Never stressful	SDS57 Included if 'Financial Stress' module not selected
	How would you describe your financial situation while growing up?	1=Always stressful 2=Often stressful 3=Sometimes stressful 4=Rarely stressful 5=Never stressful	SDS58 Included if 'Financial Stress' module not selected
Work responsibilities	What is the average number of hours you work per week during the school year (paid employment only)?	Free Response	SDS55
	What is the highest level of education completed by your parents or stepparents? Parent 1	This parent's relationship to you: 1=Mother or stepmother 2=Father or stepfather 3=Other This parent's education: 1=8th grade or lower 2=Between 9th and 12th grade (but no high school degree) 3=High school degree 4=Some college (but no college degree) 5=Associate's degree 6=Bachelor's degree 7=Graduate degree 8=Don't know	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	What is the highest level of education completed by your parents or stepparents? Parent 2	This parent's relationship to you: 1=Mother or stepmother 2=Father or stepfather 3=Other This parent's education: 1=8th grade or lower 2=Between 9th and 12th grade (but no high school degree) 3=High school degree 4=Some college (but no college degree) 5=Associate's degree 6=Bachelor's degree 7=Graduate degree 8=Don't know	
Religiosity	How important is religion in your life?	1=Very Important 2=Important 3=Neutral 4=Unimportant 5=Very unimportant	SDS36
	What is your religious affiliation? (Select all that apply)	1=Agnostic 2=Atheist 3=Buddhist 4=Catholic 5=Christian 6=Hindu 7=Jewish 8=Muslim 9=No preference [mutually exclusive] 10=Self-identify (please specify)	SDS97
Academic information	In what degree program are you currently enrolled? (Select all that apply)	1=Associate's 2=Bachelor's 3=Master's 4=JD 5=MD 6=PhD (or equivalent doctoral program) 7=Other (please specify) 8=Non-degree student [mutually exclusive]	SDS39
	Did you transfer from another campus/institution to this school?	1=Yes, I transferred from a community or junior college. 2=Yes, I transferred from a 4-year college or university. 3=No	SDS46
	What year are you in your current degree program?	1=1st year 2=2nd year 3=3rd year 4=4th year 5=5th year 6=6th year 7=7th+ year	Display if "Non-degree student" not selected for "In what degree program are you currently enrolled?"
	What is your enrollment status?	1=Full-time student 2=Part-time student	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		3=Other (please specify)	
	What is your field of study? (Select all that apply)	1=Humanities (history, languages, philosophy, etc.) 2=Natural sciences or mathematics 3=Social sciences (economics, psychology, etc.) 4=Architecture or urban planning 5=Art and design 6=Business 7=[if graduate, ask→Dentistry] 8=Education 9=Engineering 10=[if graduate, ask→Law] 11=[if graduate, ask→Medicine] 12=Music, theatre, or dance 13=Nursing 14=Pharmacy 15=[if undergraduate, ask→Pre-professional (pre-business, pre-health, pre-law)] 16=Public health 17=Public policy 18=[if graduate, ask→Social work] 19=[if undergraduate, ask→Undecided] [mutually exclusive] 20=Other (please specify)	
	What is your current overall GPA?	0=A+ 1=A 2=A- 3=B+ 4=B 5=B- 6=C+ 7=C 8=C- 9=D+ or below 10=No grade or don't know	SDS46
	In the past 4 weeks, how many days have you felt that emotional or mental difficulties have hurt your academic performance?	1=None 2=1-2 days 3=3-5 days 4=6 or more days	
	How much time do you spend during a typical week attending classes/lab?	1=Less than 1 hour/week 2=1-2 hours/week 3=3-5 hours/week 4=6-10 hours/week 5=11-15 hours/week 6=16-20 hours/week 7=More than 20 hours/week	
	How much time do you spend during a typical week studying/doing homework?	1=Less than 1 hour/week 2=1-2 hours/week 3=3-5 hours/week 4=6-10 hours/week 5=11-15 hours/week 6=16-20 hours/week 7=More than 20 hours/week	
	How much do you agree with the following statement?:	1=Strongly agree 2=Agree	Included if 'Persistence and Retention' module not selected

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	I am confident that I will be able to finish my degree no matter what challenges I may face.	3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
Housing	Where do you currently live?	1=On-campus housing, residence hall 2=On-campus housing, apartment 3=Fraternity or sorority house 4=On- or off-campus co-operative housing 5=Off-campus, non-university housing 6=With my parents (or relatives) 7=Other (please specify)	
Extracurricular activities	What activities do you currently participate in at your school? (Select all that apply)	1=Academic or pre-professional organization 2=Athletics (club) 3=Athletics (intercollegiate varsity) 4=Athletics (intramural) 5=Community service 6=Cultural or racial organization 7=Dance 8=Fraternity or sorority 9=Gender or sexuality organization 10=Government or politics (including student government) 11=Health and wellness organization 12=Media or publications 13=Music or drama 14=Religious organization 15=Social organization (that is not a fraternity or sorority) 16=Visual or fine arts 17=Other (please specify) 18=None [mutually exclusive]	
	What sport(s) do you participate in at your school?	1=Baseball 2=Basketball 3=Boxing 4=Cheering and/or dancing 5=Cross country 6=Cycling 7=Fencing 8=Field hockey 9=Football 10=Golf 11=Gymnastics 12=Ice hockey 13=Lacrosse 14=Rowing 15=Rugby 16=Sailing 17=Soccer 18=Softball 19=Swimming and/or diving 20=Tennis 21=Track and field 22=Volleyball 23=Water polo 24=Wrestling	Instructions for this item: "(Use command or control key to select more than 1 sport.)" [multi-select box]

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		25=Other	
Military experience	Have you ever served in the United States Armed Forces, military Reserves, or National Guard?	1=No, never served in the military 2=Yes, currently in Reserve Officers' Training Corps (ROTC) 3=Yes, currently in military Reserves or National Guard 4=Yes, now on active duty 5=Yes, on active duty during the past 12 months, but not now 6=Yes, on active duty in the past, but not during the past 12 months	
Disabilities	Are you registered, with the office for disability services on this campus, as having a documented and diagnosed disability?	1=Yes 2=No	SDS60
	If you selected, "Yes" for the previous question, please indicate which category of disability you are registered for: (Select all that apply)	1=Attention deficit/hyperactivity disorders 2=Deaf or hard of hearing 3=Learning disorders 4=Mobility Impairments 5=Neurological disorders 6=Physical/health related disorders 7=Psychological disorder/condition 8=Visual impairments 9=Other (please specify)	SDS61
	Other disability:	Free Response	SDS21
	How often have you used the disability-related accommodations recommended for you?	1=Not at all 2=Occasionally 3=Frequently	

(2) MENTAL HEALTH STATUS

Mental and Emotional Health
The next set of questions will ask you about your overall well-being. Remember that your responses are confidential and you may choose to skip questions or stop responding at any point.

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Positive mental health	I lead a purposeful and meaningful life.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	My social relationships are supportive and rewarding.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	I am engaged and interested in my daily activities.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	I actively contribute to the happiness and well-being of others.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	I am competent and capable in the activities that are important to me.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	I am a good person and live a good life.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	I am optimistic about my future.	1=1=Strongly disagree 2=2=Disagree	Flourishing Scale (Diener & Biswas-Diener, 2009)

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
	People respect me.	1=1=Strongly disagree 2=2=Disagree 3=3=Slightly disagree 4=4=Mixed or neither agree nor disagree 5=5=Slightly agree 6=6=Agree 7=7=Strongly agree	Flourishing Scale (Diener & Biswas-Diener, 2009) Instructions for this item: "Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement."
Depression	Over the last 2 weeks, how often have you been bothered by any of the following problems? Little interest or pleasure in doing things	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling down, depressed or hopeless	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Trouble falling or staying asleep, or sleeping too much	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling tired or having little energy	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Poor appetite or overeating	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling bad about yourself—or that you are a failure or have let yourself or your family down	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Trouble concentrating on things, such as reading the newspaper or watching television	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Moving or speaking so slowly that other people could have noticed; or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	Over the last 2 weeks, how often have you been bothered by any of the following problems? Thoughts that you would be better off dead or of hurting yourself in some way	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Patient Health Questionnaire-9 (Kroenke et al., 2001)
	How difficult have these problems (noted above) made it for you to do your work, take care of things at home, or get along with other people?	1=Not difficult at all 2=Somewhat difficult 3=Very difficult 4=Extremely difficult	Adapted from Patient Health Questionnaire-9 (Kroenke et al., 2001)

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	During that period, how often were you bothered by these problems? Little interest or pleasure in doing things	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Adapted from Patient Health Questionnaire-2 Instructions for this item: "Think about the 2-week period in the past year when you experienced the 2 problems below the most frequently."
	During that period, how often were you bothered by these problems? Feeling down, depressed or hopeless	1=Not at all 2=Several days 3=More than half the days 4=Nearly every day	Adapted from Patient Health Questionnaire-2 Instructions for this item: "Think about the 2-week period in the past year when you experienced the 2 problems below the most frequently."
Anxiety	Over the last 2 weeks, how often have you been bothered by the following problems? Feeling nervous, anxious or on edge	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Not being able to stop or control worrying	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Worrying too much about different things	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Trouble relaxing	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Being so restless that it's hard to sit still	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Becoming easily annoyed or irritable	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	Over the last 2 weeks, how often have you been bothered by the following problems? Feeling afraid as if something awful might happen	1=Not at all 2=Several days 3=Over half the days 4=Nearly every day	GAD-7 (Spitzer et al., 2006)
	How difficult have these problems (noted above) made it for you to do your work, take care of things at home, or get along with other people?	1=Not difficult at all 2=Somewhat difficult 3=Very difficult 4=Extremely difficult	
Eating and body image	Do you need to be very thin in order to feel good about yourself?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected
	I think I am...	1=Very underweight 2=Somewhat underweight 3=Normal weight 4=Somewhat overweight 5=Very overweight	Included if 'Eating and Body Image' module not selected
	What is your current height? (If you don't know, please provide your best guess.)	1=_____feet [force numeric, ≤7] 2=_____inches [force numeric, ≤11]	Included if 'Eating and Body Image' module not selected
	What is your current weight? (If you don't know, please provide your best guess.)	1=_____pounds [force numeric]	Included if 'Eating and Body Image' module not selected
	Do you ever make yourself sick because you feel uncomfortably full?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
			SCOFF questionnaire (Morgan, Reid, & Lacey, 1999) Instructions for this item: "Please answer the following questions as honestly as possible."
	Do you worry that you have lost control over how much you eat?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected SCOFF questionnaire (Morgan, Reid, & Lacey, 1999) Instructions for this item: "Please answer the following questions as honestly as possible."
	Have you recently lost more than 15 pounds in a 3-month period?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected SCOFF questionnaire (Morgan, Reid, & Lacey, 1999) Instructions for this item: "Please answer the following questions as honestly as possible."
	Do you believe yourself to be fat when others say you are too thin?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected SCOFF questionnaire (Morgan, Reid, & Lacey, 1999) Instructions for this item: "Please answer the following questions as honestly as possible."
	Would you say that food dominates your life?	1=Yes 0=No	Included if 'Eating and Body Image' module not selected SCOFF questionnaire (Morgan, Reid, & Lacey, 1999) Instructions for this item: "Please answer the following questions as honestly as possible."
Non-suicidal self-injury	In the past year, have you ever done any of the following intentionally? (Select all that apply)	1=Cut myself 2=Burned myself 3=Punched or banged myself 4=Scratched myself 5=Pulled my hair 6=Bit myself 7=Interfered with wound healing 8=Carved words or symbols into skin 9=Rubbed sharp objects into skin 10=Punched or banged an object to hurt myself 11=Other (please specify) 12=No, none of these [mutually exclusive]	Instructions for this item: "This question asks about ways you may have hurt yourself on purpose, without intending to kill yourself."
	On average, how often in the past year did you hurt yourself on purpose, without intending to kill yourself?	1=Once or twice 2=Once a month or less 3=2 or 3 times a month 4=Once or twice a week 5=3 to 5 days a week 6=Nearly everyday, or everyday	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Suicidality	In the past year, did you ever seriously think about attempting suicide?	1=Yes 0=No	
	In the past year, did you make a plan for attempting suicide?	1=Yes 0=No	
	In the past year, did you attempt suicide?	1=Yes 0=No	
Violence	In your lifetime, how many times has anyone struck or physically injured you?	1=Never 2=1 time 3=2-3 times 4=4-5 times 5=More than 5 times	Included if 'Overall Health' module not selected
	When was the last time anyone has struck or physically injured you?	1=Within the last 2 weeks 2=Within the last month 3=Within the last year 4=Within the last 1-5 years 5=More than 5 years ago	Included if 'Overall Health' module not selected
Sexual assault	Over the past 12 months, have you experienced emotional, physical, or sexual abuse (either from someone you know or don't know)?	1=Yes 0=No	Included if 'Sexual Assault' and 'Overall Health' modules both not selected
	Over the past 12 months, were you emotionally abused? (Examples include being called names, being yelled at, humiliated, judged, threatened, coerced, or controlled.)	1=Yes 0=No	Included if 'Sexual Assault' and 'Overall Health' modules both not selected
	Over the past 12 months, were you physically abused? (Examples include being kicked, slapped, punched or otherwise physically mistreated.)	1=Yes 0=No	Included if 'Sexual Assault' and 'Overall Health' modules both not selected
	Over the past 12 months, were you in a sexually abusive relationship? (By 'sexually abusive relationship', we mean one in which an intimate partner forced or coerced you to perform or receive sexual acts, or forced you to have intercourse when you didn't want to.)	1=Yes 0=No	Included if 'Sexual Assault' and 'Overall Health' modules both not selected
	Over the past 12 months, were you ever forced to have unwanted sexual intercourse through the use of physical force or threat by someone who was not an intimate partner? (By 'sexual intercourse', we mean completed or attempted penetration.)	1=Yes 0=No	Included if 'Sexual Assault' and 'Overall Health' modules both not selected Definition from CDC NISVS 2010
Substance use	Over the past 2 weeks, did you drink any alcohol?	1=Yes 0=No	Included if 'Substance Use' and 'Overall Health' modules both not selected
	Over the past 2 weeks, about how many times did you have 4 [female]/5 [male]/4 or 5 [not female or male] or more alcoholic drinks in a row? (1 drink is a can of beer, a glass of wine, a wine cooler, a shot of liquor, or a mixed drink.)	1=0 times 2=1 time 3=2 times 4=3 to 5 times 5=6 to 9 times 6=10 or more times 7=Don't know	Included if 'Substance Use' and 'Overall Health' modules both not selected Definition adapted from National Institute on Alcohol Abuse and Alcoholism
	Over the past 30 days, about how many cigarettes did you smoke per day?	1=0 cigarettes 2=Less than 1 cigarette 3=1 to 5 cigarettes 4=About one-half pack 5=1 or more packs	Included if 'Substance Use' and 'Overall Health' modules both not selected
	Over the past 30 days, have you used any of the following drugs? (Select all that apply)	1=Marijuana 2=Cocaine (any form, including crack, powder, or freebase) 3=Heroin	Included if 'Substance Use' and 'Overall Health' modules both not selected

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		4=Methamphetamines (also known as speed, crystal meth, or ice) 5=Other stimulants (such as Ritalin, Adderall) without a prescription 6=Ecstasy 7=Other drugs without a prescription (please specify) 8=No, none of these [mutually exclusive]	
Sleep	During this school year, at approximately what time have you typically gone to sleep on: Weeknights?	1=12:00pm 2=1:00pm 3=2:00pm 4=3:00pm 5=4:00pm 6=5:00pm 7=6:00pm 8=7:00pm 9=8:00pm 10=9:00pm 11=10:00pm 12=11:00pm 13=12:00am 14=1:00am 15=2:00am 16=3:00am 17=4:00am 18=5:00am 19=6:00am 20=7:00am 21=8:00am 22=9:00am 23=10:00am 24=11:00am	Included if 'Sleep' and 'Overall Health' modules both not selected
	During this school year, at approximately what time have you typically gone to sleep on: Weekend nights?	1=12:00pm 2=1:00pm 3=2:00pm 4=3:00pm 5=4:00pm 6=5:00pm 7=6:00pm 8=7:00pm 9=8:00pm 10=9:00pm 11=10:00pm 12=11:00pm 13=12:00am 14=1:00am 15=2:00am 16=3:00am 17=4:00am 18=5:00am 19=6:00am 20=7:00am 21=8:00am 22=9:00am	Included if 'Sleep' and 'Overall Health' modules both not selected

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		23=10:00am 24=11:00am	
	During this school year, at approximately what time have you typically woken up on: Weekdays?	1=12:00pm 2=1:00pm 3=2:00pm 4=3:00pm 5=4:00pm 6=5:00pm 7=6:00pm 8=7:00pm 9=8:00pm 10=9:00pm 11=10:00pm 12=11:00pm 13=12:00am 14=1:00am 15=2:00am 16=3:00am 17=4:00am 18=5:00am 19=6:00am 20=7:00am 21=8:00am 22=9:00am 23=10:00am 24=11:00am	Included if 'Sleep' and 'Overall Health' modules both not selected
	During this school year, at approximately what time have you typically woken up on: Weekend days?	1=12:00pm 2=1:00pm 3=2:00pm 4=3:00pm 5=4:00pm 6=5:00pm 7=6:00pm 8=7:00pm 9=8:00pm 10=9:00pm 11=10:00pm 12=11:00pm 13=12:00am 14=1:00am 15=2:00am 16=3:00am 17=4:00am 18=5:00am 19=6:00am 20=7:00am 21=8:00am 22=9:00am 23=10:00am 24=11:00am	Included if 'Sleep' and 'Overall Health' modules both not selected
	During this school year, on how many days have you taken naps during a typical week?	1=I don't take naps. 2=1 3=2 4=3 5=4 6=5	Included if 'Sleep' and 'Overall Health' modules both not selected

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		7=6 8=7	
	How long is your typical nap?	1=Less than 1 hour 2=Between 1 and 2 hours 3=Between 2 and 3 hours 4=More than 3 hours	Included if 'Sleep' and 'Overall Health' modules both not selected

(3) MENTAL HEALTH SERVICE UTILIZATION/HELP-SEEKING

Experiences with Services and Support
The next questions will ask you about your experiences using mental health services. Remember that your responses are confidential and you may choose to skip questions or stop responding at any point.

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Diagnosed mental illnesses	Have you ever been diagnosed with any of the following conditions by a health professional (e.g., primary care doctor, psychiatrist, psychologist, etc.)? (Select all that apply)	1=Depression (e.g., major depressive disorder, bipolar/manic depression, dysthymia, persistent depressive disorder) 2=Anxiety (e.g., generalized anxiety disorder, phobias, obsessive-compulsive disorder, post-traumatic stress disorder) 3=Attention disorder or learning disability (e.g., attention deficit disorder, attention deficit hyperactivity disorder, learning disability) 4=Eating disorder (e.g., anorexia nervosa, bulimia nervosa) 5=Psychosis (e.g., schizophrenia, schizo-affective disorder) 6=Personality disorder (e.g., antisocial personality disorder, paranoid personality disorder, schizoid personality disorder) 7=Substance abuse disorder (e.g., alcohol abuse, abuse of other drugs) 8=No, none of these [mutually exclusive] 9=Don't know	
	Specifically, which of the following depression disorders were you diagnosed with by a professional? (Select all that apply)	1=Major depressive disorder 2=Dysthymia or persistent depressive disorder 3=Bipolar/manic depression 4=Cyclothymia (can be thought of as low-level bipolar disorder) 5=Other (please specify) 6=Don't know	
	Specifically, which of the following anxiety disorders were you diagnosed with by a professional? (Select all that apply)	1 =Generalized anxiety disorder 2=Panic disorder 3=Agoraphobia 4=Specific phobia (e.g., claustrophobia, arachnophobia, etc.) 5=Social phobia 6=Obsessive-compulsive disorder 7=Acute stress disorder 8=Post traumatic stress disorder (PTSD) 9=Other (please specify) 10=Don't know	
	Specifically which of the following attention or learning disability disorders were you diagnosed with by a professional? (Select all that apply)	1=Attention deficit hyperactivity disorder (ADHD or ADD) 2=Other learning disability 3=Other (please specify) 4=Don't know	
	Specifically, which of the following eating disorders were you diagnosed with by a professional? (Select all that apply)	1=Anorexia nervosa 2=Bulimia nervosa 3=Binge-eating Disorder 4=Other (please specify) 5=Don't know	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	Specifically, which of the following psychotic disorders were you diagnosed with by a professional? (Select all that apply)	1=Schizophrenia 2=Schizo-affective disorder 3=Brief psychotic disorder 4=Delusional disorder 5=Schizophreniform disorder 6=Shared psychotic disorder 7=Other (please specify) 8=Don't know	
	Specifically, which of the following personality disorders were you diagnosed with by a professional? (Select all that apply)	1=Antisocial personality disorder 2=Avoidant personality disorder 3=Borderline personality disorder 4=Dependent personality disorder 5=Histrionic personality disorder 6=Narcissistic personality disorder 7=Obsessive-Compulsive personality disorder 8=Paranoid personality disorder 9=Schizoid personality disorder 10=Schizotypal personality disorder 11=Other (please specify) 12=Don't know	
	Specifically, which of the following substance disorders were you diagnosed with by a professional? (Select all that apply)	1=Alcohol abuse or other alcohol-related disorders 2=Other (please specify) 3=Don't know	
Knowledge of campus services	How much do you agree with the following statement?: If I needed to seek professional help for my mental or emotional health, I would know where to go on my campus.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	Included if 'Knowledge and Attitudes about Mental Health and Mental Health Services' module not selected
Beliefs about treatment efficacy	How helpful on average do you think medication is, when provided competently, for people your age who are clinically depressed?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	Included if 'Knowledge and Attitudes about Mental Health and Mental Health Services' module not selected
	How helpful on average do you think therapy or counseling is, when provided competently, for people your age who are clinically depressed?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	Included if 'Knowledge and Attitudes about Mental Health and Mental Health Services' module not selected
Stigma	How much do you agree with the following statement?: Most people think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	Included if 'Knowledge and Attitudes about Mental Health and Mental Health Services' module not selected
	How much do you agree with the following statement?: I would think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	Included if 'Knowledge and Attitudes about Mental Health and Mental Health Services' module not selected
Perceived need	How much do you agree with the following statement?: In the past 12 months, I needed help for emotional or mental health problems such as feeling sad, blue, anxious or nervous.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		6=Strongly disagree	
	How much do you agree with the following statement?: I currently need help for emotional or mental health problems such as feeling sad, blue, anxious or nervous.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	Display only if previous item answered with at least "somewhat agree"
Help-seeking intentions	If you were experiencing serious emotional distress, whom would you talk to about this? (Select all that apply)	1=Professional clinician (e.g., psychologist, counselor, or psychiatrist) 2=Roommate 3=Friend (who is not a roommate) 4=Significant other 5=Family member 6=Religious counselor or other religious contact 7=Support group 8=Other non-clinical source (please specify) 9=No one [mutually exclusive]	
Use of counseling/therapy	Have you ever received counseling or therapy for mental health concerns?	1=No, never 2=Yes, prior to starting college 3=Yes, since starting college 4=Yes, both of the above (prior to college and since starting college)	SDS01
	How many total visits or sessions for counseling or therapy have you had in the past 12 months?	0=0 1=1-3 2=4-6 3=7-9 4=10 or more	Display only if selected 2, 3 or 4 previously
	Are you currently receiving counseling or therapy?	1=Yes 0=No	Display only if selected 1-4 for previous question
	From which of the following places did you receive counseling or therapy? (Select all that apply)	1=[Insert name of institution's student counseling services] 2=[Insert name of institution's campus health services] 3=[Insert other campus counseling or health service] 4=Psychiatric Emergency Services/Psych Emergency Room (ER) 5=Inpatient psychiatric hospital 6=Partial hospitalization program 7=Provider in the local community (not on campus) 8=Provider in another location (such as your hometown) 9=Other (please specify) 10=Don't know	Display only if selected 1-4 for question before last
Satisfaction with counseling/therapy	How satisfied/dissatisfied are you with the following aspects of your therapy or counseling that you received in the past 12 months at [pipe in selected options from: "From which of the following places did you receive counseling or therapy?"]?: Convenient hours	1=Very dissatisfied 2=Dissatisfied 3=Somewhat dissatisfied 4=Somewhat satisfied 5=Satisfied 6=Very satisfied	
	How satisfied/dissatisfied are you with the following aspects of your therapy or counseling that you received in the past 12	1=Very dissatisfied 2=Dissatisfied 3=Somewhat dissatisfied	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	months at [pipe in selected options from: "From which of the following places did you receive counseling or therapy?"]?: Location	4=Somewhat satisfied 5=Satisfied 6=Very satisfied	
	How satisfied/dissatisfied are you with the following aspects of your therapy or counseling that you received in the past 12 months at [pipe in selected options from: "From which of the following places did you receive counseling or therapy?"]?: Quality of therapists/counselors	1=Very dissatisfied 2=Dissatisfied 3=Somewhat dissatisfied 4=Somewhat satisfied 5=Satisfied 6=Very satisfied	
	How satisfied/dissatisfied are you with the following aspects of your therapy or counseling that you received in the past 12 months at [pipe in selected options from: "From which of the following places did you receive counseling or therapy?"]?: Respect for your privacy concerns	1=Very dissatisfied 2=Dissatisfied 3=Somewhat dissatisfied 4=Somewhat satisfied 5=Satisfied 6=Very satisfied	
	How satisfied/dissatisfied are you with the following aspects of your therapy or counseling that you received in the past 12 months at [pipe in selected options from: "From which of the following places did you receive counseling or therapy?"]?: Ability to schedule appointments without long delays	1=Very dissatisfied 2=Dissatisfied 3=Somewhat dissatisfied 4=Somewhat satisfied 5=Satisfied 6=Very satisfied	
	How helpful, overall, do you think therapy or counseling was or has been for your mental or emotional health?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
Use of medication	In the past 12 months have you taken any of the following types of prescription medications? (Please count only those you took, or are taking, several times per week.) (Select all that apply)	1=Psychostimulants (methylphenidate (Ritalin or Concerta), amphetamine salts (Adderall), dextroamphetamine (Dexerdine), etc.) 2=Antidepressants (e.g., fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), escitalopram (Lexapro), venlafaxine (Effexor), buproprion (Wellbutrin), etc.) 3=Anti-psychotics (e.g., haloperidol (Haldol), clozapine (Clozaril), risperidone (Risperdal), olanzapine (Zyprexas), etc.) 4=Anti-anxietymedications (e.g., lorazepam (Ativan), clonazepam (Klonopin), alprazolam (Xanax), buspirone (BuSpar), etc.) 5=Mood stabilizers (e.g., lithium, valproate (Depakote), lamotrigine (Lamictal), carbamazepine (Tegretol), etc.) 6=Sleep medications (e.g., zolpidem (Ambien), zaleplon (Sonata), etc.) 7=Other medication for mental or emotional health (please specify) 8=No, none of these [mutually exclusive] 9=Don't know	
	For what purpose(s) have you taken the medication(s) you just indicated? (Select all that apply)	1=Mental or emotional health 2=Other health reasons 3=Academic performance 4=Recreation/fun 5=Other (please specify)	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	In the past 12 months how many times have you discussed with a doctor or other health professional your use of the medication(s) you just noted?	1=Not at all 2=1-2 times 3=3-5 times 4=More than 5 times 5=Don't know	
	Who wrote your most recent prescription for the medication(s) you noted in the last question? (Select all that apply)	1=A general practitioner, nurse practitioner, or primary care physician 2=A psychiatrist 3=Other type of doctor (please specify) 4=Took the medication(s) without a prescription 5=Don't know	
	Of the medication(s) you just noted, which are you currently taking? (Select all that apply)	1=Psychostimulants (methylphenidate (Ritalin, or Concerta), amphetamine salts (Adderall), dextroamphetamine (Dexerdine), etc.) 2=Antidepressants (e.g., fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), escitalopram (Lexapro), venlafaxine (Effexor), buproprion (Wellbutrin), etc.) 3=Anti-psychotics (e.g., haloperidol (Haldol), clozapine (Clozaril), risperidone (Risperdal), olanzapine (Zyprexas), etc.) 4=Anti-anxiety medications (e.g., lorazepam (Ativan), clonazepam (Klonopin), alprazolam (Xanax), buspirone (BuSpar), etc.) 5=Mood stabilizers (e.g., lithium, valproate (Depakote), lamotrigine (Lamictal), carbamazepine (Tegretol), etc.) 6=Sleep medications (e.g., zolpidem (Ambien), zaleplon (Sonata), etc.) 7=Other medication for mental or emotional health (please specify) 8=None of the above [mutually exclusive]	
	During the past year, for how long, in total, have you taken the following medication(s)?	1=Less than 1 month 2=Between 1 and 2 months 3=2 months or more 4=Did not take	Pipe in selected options from: "In the past 12 months have you taken any of the following types of prescription medications? (Please count only those you took, or are taking, several times per week.)"
	How helpful, overall, do you think the medication(s) was or has been for your mental or emotional health?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
	Which of the following are important reasons why you received those services? (Select all that apply)	1=I decided on my own to seek help. 2=A friend encouraged me to seek help. 3=A friend pressured me to seek help. 4=A family member encouraged me to seek help. 5=A family member pressured me to seek help. 6=Someone other than a friend or family member encouraged me to seek help (please specify person's relationship to you). 7=I was mandated to seek help by campus staff. 8=I acquired more information about my options from (please specify where).	Instructions for this item: "Earlier in this survey you reported that you have taken medication and/or received counseling/therapy in the past 12 months for your mental or emotional health."

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		9=Other (please specify)	
Barriers to help-seeking	In the past 12 months, which of the following factors have caused you to receive fewer services (counseling, therapy, or medications) for your mental or emotional health than you would have otherwise received? (Select all that apply)	1=No need for services 2=Financial reasons (too expensive, not covered by insurance) 3=Not enough time 4=Not sure where to go 5=Difficulty finding an available appointment 6=Prefer to deal with issues on my own or with support from family/friends 7=Other (please specify) 8=No barriers [mutually exclusive]	
	In the past 12 months which of the following explain why you have not received medication or therapy for your mental or emotional health? (Select all that apply)	1=I haven't had the chance to go but I plan to. 2=No need for services 3=Financial reasons (too expensive, not covered by insurance) 4=Not enough time 5=Not sure where to go 6=Difficulty finding an available appointment 7=Prefer to deal with issues on my own or with support from family/friends 8=Other (please specify) 9=No barriers [mutually exclusive]	
Visit to medical providers	In the past 12 months, have you visited any medical provider, such as a primary care doctor or other type of doctor, for a check-up or any other medical reasons?	1=Yes 0=No	
Informal help-seeking	In the past 12 months have you received counseling or support for your mental or emotional health from any of the following sources? (Select all that apply)	1=Roommate 2=Friend (who is not a roommate) 3=Significant other 4=Family member 5=Religious counselor or other religious contact 6=Support group 7=Other non-clinical source (please specify) 8=No, none of these [mutually exclusive]	
	How helpful was it to discuss these concerns?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
	If you had a mental health problem that you believed was affecting your academic performance, which people at school would you talk to? (Select all that apply)	1=Professor from one of my classes 2=Academic advisor 3=Another faculty member 4=Teaching assistant 5=Student services staff 6=Dean of Students or class dean 7=Other (please specify) 8=No one [mutually exclusive]	
	During this school year have you talked with any academic personnel (such as instructors, advisors, or other academic staff) about any mental health problems that were affecting your academic performance?	1=Yes 0=No	
	Overall, how supportive was the response of the academic personnel with whom you talked?	1=Very supportive 2=Supportive	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		3=Not supportive 4=Very unsupportive	
Insurance	What is the source of your current health insurance coverage? (Select all that apply)	1=I do not have any health insurance coverage (uncovered). [mutually exclusive] 2=I have health insurance through my parent(s) or their employer. 3=I have health insurance through my employer. 4=I have health insurance through my spouse's employer. 5=I have a student health insurance plan. 6=I have health insurance through an embassy or sponsoring agency for international students. 7=I have individual health insurance purchased directly from an insurance carrier. 8=I have Medicaid or other governmental insurance. 9=I am uncertain about whether I have health insurance. 10=I have health insurance but am uncertain about where it is from.	
	Do you know if your health insurance plan would provide any coverage for a visit to a mental health professional (psychiatrist, psychologist, clinical social worker, etc.)?	1=Yes, it definitely would. 2=I think it would but am not sure. 3=I have no idea. 4=I think it would not but am not sure. 5=No, it definitely would not.	
	Does your current health insurance plan meet your needs for mental health services?	1=I have not needed to use my current insurance plan to cover mental health services. 2=Yes, everything I have needed is covered. 3=No, the coverage is inadequate to meet my needs.	
	I feel that coverage is inadequate because my plan... (Select all that apply)	1=...doesn't cover any mental health services. 2=...doesn't cover preexisting conditions. 3=...doesn't cover certain conditions. 4=...has a co-pay that is too expensive. 5=...has a deductible that is too expensive. 6=...doesn't cover certain types of services or providers. 7=...has a limit on the number of services that are covered. 8=Other (please specify)	
	This semester, how easy or difficult has it been paying for mental health care?	1=Very easy 2=Easy 3=Somewhat easy 4=Somewhat difficult 5=Difficult 6=Very difficult 7=Not applicable	Additional insurance-related question from CCMH

ELECTIVE MODULES:

(9)KNOWLEDGE AND ATTITUDES ABOUT MENTAL HEALTH AND MENTAL HEALTH SERVICES

Knowledge and Beliefs about Services
The next questions will ask you about your knowledge and beliefs about services and treatment for mental health. Remember that your responses are confidential and you may choose to skip questions or stop responding at any point.

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Knowledge of mental illness and treatments	Relative to the average person, how knowledgeable are you about mental illnesses (such as depression and anxiety disorders) and their treatments?	1=Well above average 2=Above average 3=Average 4=Below average 5=Well below average	
	As far as you know, which of the following are generally considered highly effective treatments for depression? (Select all that apply)	1=Cognitive behavioral therapy (CBT) 2=Antidepressant medication 3=Psychoanalysis 4=Psychostimulant medication (e.g., Ritalin)	
	As far as you know, which of the following are common symptoms of depression? (Select all that apply)	1=Sleep changes (substantial increases or decreases) 2=Hallucinations or delusions 3=Appetite changes (substantial increases or decreases) 4=Reduced interest in usual activities	
	As far as you know, which of the following are considered to be effective self-help strategies for reducing anxiety? (Select all that apply)	1=Physical exercise 2=Spending more time alone 3=Slow breathing exercises 4=Meditation	
	As far as you know, which of the following are common symptoms of eating disorders? (Select all that apply)	1=Dramatic weight loss 2=Strong need for control 3=Restrictive eating/fasting 4=Self-induced vomiting, abuse of laxatives, diet pills and/or diuretics 5=Rapid, uninterruptible speech 6=Eating an unusually large amount of food while feeling out of control	
	How much do you agree with the following statement?: I have a good idea of how to recognize that someone is in emotional or mental distress.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: I feel confident in helping someone with a mental health problem.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	Have you ever participated in a mental health gatekeeper-training program? (A program to enhance your skills to recognize signs of emotional distress in other people and refer them to appropriate resources. Examples include Mental Health First Aid, Question, Persuade, Refer (QPR), and At-Risk.)	1=Yes 0=No	
Knowledge and perceptions of campus services	How much do you agree with the following statement?: If I needed to seek professional help for my mental or emotional health, I would know where to go on my campus.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
	Are you aware of mental health outreach efforts on your campus (such as educational programs, awareness events, anti-stigma campaigns, screening days)?	1=Yes 0=No	
	What have you heard from other students about the quality of mental health and psychological counseling services on your campus?	1=I have mostly heard negative opinions. 2=I have heard an even mix of negative and positive opinions. 3=I have mostly heard positive opinions. 4=I haven't heard anything.	
	How much do you agree with the following statement?: There is a good support system on campus for students going through difficult times.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
Beliefs about treatment efficacy	How helpful on average do you think medication is, when provided competently, for people your age who are clinically depressed?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
	How helpful on average do you think medication would be for you if you were having mental or emotional health problems?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
	How helpful on average do you think therapy or counseling is, when provided competently, for people your age who are clinically depressed?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
	How helpful on average do you think therapy or counseling would be for you if you were having mental or emotional health problems?	1=Very helpful 2=Helpful 3=Somewhat helpful 4=Not helpful	
Identity, secrecy, and disclosure	How much do you agree with the following statement?: I see myself as a person with mental illness.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: When I feel depressed or sad, I tend to keep those feelings to myself.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: Sometimes I feel ashamed of having a mental illness.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: Sometimes I keep my mental illness a secret.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: I wish I could disclose to others my mental illness.	1=Strongly agree 2=Agree	

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
		3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
Perceived stigma	How much do you agree with the following statement?: Most people would willingly accept someone who has received mental health treatment as a close friend.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: Most people feel that receiving mental health treatment is a sign of personal failure.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: Most people think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
Personal stigma	How much do you agree with the following statement?: I would willingly accept someone who has received mental health treatment as a close friend.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: I feel that receiving mental health treatment is a sign of personal failure.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
	How much do you agree with the following statement?: I would think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree	
Other factors	As far as you know, how many of your close friends or family have ever sought professional help for an emotional or mental health problem?	1=None 2=At least 1 or 2 3=3 or more 4=Don't know	

(13) RESILIENCE AND COPING

Resilience and Coping
The next questions will ask you about how you respond to stressful feelings and experiences. Remember that your responses are confidential and you may choose to skip questions or stop responding at any point.

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Psychological inflexibility/Experiential Avoidance	My painful experiences and memories make it difficult for me to live a life that I would value.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	I'm afraid of my feelings.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	I worry about not being able to control my worries and feelings.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	My painful memories prevent me from having a fulfilling life.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	Emotions cause problems in my life.	1=Never true 2=Very seldom true 3=Seldom true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011)

		4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	It seems like most people are handling their lives better than I am.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
	Worries get in the way of my success.	1=Never true 2=Very seldom true 3=Seldom true 4=Sometimes true 5=Frequently true 6=Almost always true 7=Always true	Acceptance and Action Questionnaire-II (AAQ-II) (Bond, Hayes, Baer, Carpetner, Guenole, Orcutt, Waltz, & Zettle, 2011) Instructions for this item (adapted from AAQ-II (Bond et al., 2011)): "Below you will find a list of statements. Please rate how true each statement is for you. Use the scale below to make your choice."
Emotional resilience	I tend to bounce back quickly after hard times.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"
	I have a hard time making it through stressful events.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"
	It does not take me long to recover from a stressful event.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"
	It is hard for me to snap back when something bad happens.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"

		5=Strongly agree	
	I usually come through difficult times with little trouble.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"
	I tend to take a long time to get over set-backs in my life.	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree	Brief Resilience Scale (BRS) (Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard, 2008) Instructions for this item (adapted from BRS (Smith et al., 2008)): "Please indicate the extent to which you agree with each of the following statements:"

SECTION	ITEM	RESPONSE CATEGORIES	CITATION/NOTES
Sense of Belonging	I feel confident that I belong at the [institution].	1=Strongly disagree 2=Moderately disagree 3=Slightly disagree 4=Neutral 5=Slightly agree 6=Moderately agree 7=Strongly agree	Clark (2016) Instructions for this item: "This is the final set of questions: Please indicate your level of agreement to the following statements:"
	I sometimes feel that people at the [institution] do not accept me.	1=Strongly disagree 2=Moderately disagree 3=Slightly disagree 4=Neutral 5=Slightly agree 6=Moderately agree 7=Strongly agree	Clark (2016) Instructions for this item: "This is the final set of questions: Please indicate your level of agreement to the following statements:"
	I worry that I am an outsider at the [institution].	1=Strongly disagree 2=Moderately disagree 3=Slightly disagree 4=Neutral 5=Slightly agree 6=Moderately agree 7=Strongly agree	Clark (2016) Instructions for this item: "This is the final set of questions: Please indicate your level of agreement to the following statements:"
Academic Self-Efficacy	I am confident that I can earn a B or better grade in all my courses this term.	1=Strongly disagree 2=Moderately disagree 3=Slightly disagree 4=Neutral 5=Slightly agree 6=Moderately agree 7=Strongly agree	Clark (2016) Instructions for this item: "This is the final set of questions: Please indicate your level of agreement to the following statements:"
	I am confident that I can find employment after I graduate.	1=Strongly disagree 2=Moderately disagree 3=Slightly disagree 4=Neutral 5=Slightly agree 6=Moderately agree 7=Strongly agree	Clark (2016) Instructions for this item: "This is the final set of questions: Please indicate your level of agreement to the following statements:"

Perceived Stress	...that you were unable to control the important things in life?	0=Never 1=Almost never 2=Sometimes 3=Fairly often 4=Very often	Perceived Stress Scale 4 (PSS-4) (Cohen, Kamarck, & Mermelstein, 1983) Instructions for this item: "In the past month, how often have you felt..."
	...confident about your ability to handle your personal problems?	0=Never 1=Almost never 2=Sometimes 3=Fairly often 4=Very often	Perceived Stress Scale 4 (PSS-4) (Cohen, Kamarck, & Mermelstein, 1983) Instructions for this item: "In the past month, how often have you felt..."
	...that things were going your way?	0=Never 1=Almost never 2=Sometimes 3=Fairly often 4=Very often	Perceived Stress Scale 4 (PSS-4) (Cohen, Kamarck, & Mermelstein, 1983) Instructions for this item: "In the past month, how often have you felt..."
	...difficulties were piling up so high that you could not overcome them?	0=Never 1=Almost never 2=Sometimes 3=Fairly often 4=Very often	Perceived Stress Scale 4 (PSS-4) (Cohen, Kamarck, & Mermelstein, 1983) Instructions for this item: "In the past month, how often have you felt..."

<u>**SURVEY ENDINGS:**</u>

[SURVEY ENDING #1: CONSENT/ASSENT NOT GRANTED]

Because you have not [consented/assented] to complete the survey you may now close your browser. [local resources]
If you would like to learn more about the Healthy Minds Study, you can visit healthymindsnetwork.org/hms.

[SURVEY ENDING #2, PART 1: SURVEY COMPLETERS, FEEDBACK]

<div align="center">

You're almost done!

</div>

You answered several questions in this survey that are part of commonly used screening tools to help determine symptom levels and risk for various mental health problems. Please indicate whether you'd like to view your personalized feedback page (which includes scores on screening tools pertaining to Depression, Anxiety, and Eating Disorders. As with all screening instruments, the results (phrases and numbers) correspond simply to your pattern of responding and are compared to other people who have taken the instrument. This screening is not a substitute for a clinical evaluation and is not an actual diagnosis, and only suggests that compared to other people you MAY have the presence of mental health symptoms. You should contact a health professional for more information and a complete evaluation, if you are interested, by consulting the resources noted for your campus.

"Yes, I'd like to view my personalized feedback page"
"No, I would not like to view my personalized feedback page"

[DISPLAY IF ITEM ABOVE ANSWERED "YES"]

Below is some personalized feedback based on your responses. Once you have read this information, please click "CONTINUE" to submit the survey and view a list of resources.

The Healthy Minds Study includes several commonly used screening tools that are used to determine symptom levels and risk for various mental health problems. Note that these results are not diagnoses but we hope they will help put things in perspective for you. To print this feedback page, please feel free to right-click the page and click "print". Here's what your responses indicate:

> Depression: You answered a series of 9 questions used to assess symptoms of depression. Scores range from 0 to 27, with higher scores indicating higher levels of depression. Scores are interpreted as follows: 0-4 "no signs of depression", 5-9 "mild depression", 10-14 "moderate depression", 15-19 "moderately severe depression", and 20-27 "severe depression". Your score is [insert score].

> Anxiety: You answered a series of 7 questions used to assess symptoms of anxiety. Scores range from 0 to 21, with higher scores indicating higher levels of anxiety. Scores are interpreted as follows: 0-4 "no signs of anxiety", 5-9 "mild anxiety", 10-14 "moderate anxiety", and 15-21 "severe anxiety". Your score is [insert score].

> Eating disorder: You answered a series of 5 questions used to assess symptoms of eating disorders. Scores range from 0 to 5, with higher scores indicating higher levels of disordered eating. A score of 2 or higher is considered a positive screen for an eating disorder. Your score is [insert score].

[if reported suicidal ideation→**Because you indicated that you have had suicidal thoughts or attempts in the past year, we are especially concerned about whether you are receiving the support you may need. We urge you to consider the resources shown below and on the next page if you are not already receiving help.**

National Suicide Prevention Lifeline Phone: 1-800-273-TALK
Website: www.suicidepreventionlifeline.org
The National Suicide Prevention Lifeline is a 24-hour, toll-free, confidential suicide prevention hotline available to anyone in suicidal crisis or emotional distress.]

[SURVEY ENDING #2, PART 2A: SURVEY COMPLETERS (LOW-RISK), RESOURCES]

Thank you for completing the Healthy Minds Study!

As stated before you began the survey, all of your responses will remain confidential. Your participation will help inform programs and resources for [name of school] students. We also hope that taking this survey has been a valuable experience for you. Below is a list of resources. If you'd like to save this information, please print this page from your web browser now by right-clicking this page and clicking "print". Please click **HERE** if you wish to print a copy of the consent form.

Also, you have been automatically entered into a ==sweepstakes for 1 of 2 $500 prizes or 1 of 10 $100 prizes==. The drawing will be conducted by researchers at the University of Michigan School of Public Health in Ann Arbor, Michigan in summer 201==#==. Winners will be notified by email and provided with information about how to collect the prize.

==[Insert school's custom incentives if applicable]==

Resources:

[local resources]

Other resources:
National Sexual Assault Online Hotline Website: https://ohl.rainn.org/online/

If you would like to learn more about the Healthy Minds Study, you can visit healthymindsnetwork.org/hms. To provide feedback about this survey, please email the researchers at healthyminds@umich.edu or [local contact information].

[SURVEY ENDING #2, PART 2B: SURVEY COMPLETERS (HIGH-RISK: DEPRESSION≥10, ANXIETY≥10, AND/OR EATING DISORDER≥2, Suicidal ideation), RESOURCES]

Thank you for completing the Healthy Minds Study!

As stated before you began the survey, all of your responses will remain confidential. Your participation will help inform programs and resources for [name of school] students. We also hope that taking this survey has been a valuable experience for you. Based on your previous responses, you might find it helpful to speak with a trained professional about the topics addressed in this survey. There are resources available for you at [name of school]. Below is a list of resources. If you'd like to save this information, please print this page from your web browser now by right-clicking this page and clicking "print". Please click **HERE** if you wish to print a copy of the consent form.

==Also, you have been automatically entered into a sweepstakes for 1 of 2 $500 prizes or 1 of 10 $100 prizes==. The drawing will be conducted by researchers at the University of Michigan School of Public Health in Ann Arbor, Michigan in summer 201==#==. Winners will be notified by email and provided with information about how to collect the prize.

==[Insert school's custom incentives if applicable]==

Campus/local resources:

[local resources]

Other resources:

Crisis Text Line
Website: www.crisistextline.org/
Crisis Text Line serves anyone in any type of crisis, providing them access to free, confidential 24/7 emotional support and counseling they need via text.
Text HEALTH to 741-741.

National Sexual Assault Online Hotline Website: https://ohl.rainn.org/online/

National Eating Disorder Association Phone: 1-800-931-2237
Website: www.nationaleatingdisorders.org
The National Eating Disorders Association (NEDA) is the leading non-profit organization in the United States advocating on behalf of and supporting individuals and families affected by eating disorders.

ULifeline
Website: www.ulifeline.org
Online resource for college mental health.

If you would like to learn more about the Healthy Minds Study, you can visit healthymindsnetwork.org/hms. To provide feedback about this survey, please email the researchers at healthyminds@umich.edu or [local contact information].

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