COLLEGE STUDENT DEPRESSION, ANXIETY DISORDER, AND SUICIDE: INSTITUTIONAL TRENDS, ASSOCIATIONS, AND MITIGATION INTERVENTIONS

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ABSTRACT

John D. Catalano: College Student Depression, Anxiety Disorder, and Suicide: Institutional Trends, Associations, and Mitigation Interventions
(Under the direction of Susan Helm-Murtagh)

This study sought to identify trends and incidence levels of college student depression, anxiety disorder, and suicide at United States colleges and universities. A public health approach was employed to ascertain if institutional and social determinants of mental illness are acting upon students. Once specific underlying factors were identified, a set of institutional interventions were developed to inform colleges and universities about strategies that can be implemented to mitigate student mental illness. This work has determined that there are numerous initiatives that institutions of higher education can implement to mitigate student mental illness.

A one-person systematic review was undertaken to assess and determine the current state of scholarship within this topic area. Scholarship on this topic has primarily been focused on individual pathology and access to care. The reviewed research relates to access to campus counseling resources, counseling center models of care, risk identification, risk stratification, and intervention modalities. However, there is a dearth of literature on how institutional factors may be affecting student mental health.

College students are at significant risk of mental illness, with 46.2% of college students reporting debilitating depression and 66.4% of college students feeling overwhelming anxiety in the 2018 to 2019 academic year (ACHA-NCHA, 2019). Of significant concern is the fact that

36.9% of students reported serious suicidal ideation and 10.9% of students attempted suicide in the 2018 to 2019 academic year (CCMH, 2020). Approximately 1,100 students die by suicide each year (Fernández Rodríguez and Huertas, 2013).

A concurrent triangulation mixed methods approach was employed. Quantitative research included the collection and analysis of secondary data from valid sources. Qualitative research factors were explored through Key Informant interviews of Counseling Center Directors and Deans of Students to explore hypothesized underlying factors.

Results were utilized to develop an institutional plan of action that can be implemented on a college-by-college basis. A modified sequential intercept model will be employed to inform implementation. Action plan steps include pedagogical modifications, policy changes related to FERPA, eliminating barriers to help-seeking behavior, and creating collaborative campus cultures, among others. The end goal is to create supportive and transparent campus communities where students can thrive.

To my parents, John and Serina Sally Catalano.
Your countless sacrifices provided me with the education that made this work possible.

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LIST OF ABBREVIATIONS

ACHA	American College Health Association
ADA	Americans with Disabilities Act
APA	American Psychological Association
ASD	Autism Spectrum Disorder
CBM-HS	Cognitive bias modification for help-seeking stigma
CBS-D	College Breakthrough Series-Depression
CBT	Cognitive Behavioral Therapy
CCC	College Counseling Center
CCM	Chronic (Collaborative) Care Model
CCMH	Center for Collegiate Mental Health
COPE	Creating Opportunities for Personal Empowerment
DSM	Diagnostic and Statistical Model of Mental Disorders
***e*Bridge**	Electronic Bridge to Mental Health Services
FERPA	Family Educational Rights and Privacy Act
GPA	Grade Point Average
HIPAA	Health Insurance Portability and Accountability Act
NAMI	National Alliance on Mental Illness
NCHA	National College Health Assessment
NIMH	National Institute of Mental Health
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
SBQ-R	Suicide Behavior Questionnaire-Revised
UDL	Universal Design for Learning

CHAPTER I: INTRODUCTION

The Problem and Its Importance

The National Center for Education Statistics reports that there are currently 19.9 million undergraduate students enrolled in colleges throughout the United States. This statistic includes both American and international students (NCES, 2020).

According to the American College Health Association (ACHA), 46.2% of college students reported feeling so depressed that it was difficult to function, 66.4% of college students reported feeling overwhelming anxiety, and 14.4% of college students reported having serious suicidal ideations during the 2018 to 2019 academic year (ACHA, 2019). Of greatest concern, according to the Center for Collegiate Mental Health (CCMH), 54% of college students have contemplated suicide during their time in college (CCMH, 2020). A 2013 study determined that approximately 1,100 college students die by suicide annually (Fernández Rodríguez and Huertas, 2013). According to the National Alliance on Mental Illness (NAMI), suicide is the second leading cause of death among college students, eclipsed only by unintentional injury death (NAMI, 2020). Sadly, 62% of college students who experience distress do not seek out psychiatric or psychological treatment (NAMI, 2020).

Systemic Factors

Past attempts to deal with the issues related to college student depression and suicide have fallen far short of being effective. Increases in counseling center budgets, erecting physical safety nets and barriers at common suicide sites, and conducting limited wellness training for

first year students are initiatives that are barely scratching the surface of this very deep problem. The objective of this study is to shift from the current medical model of diagnosis and treatment to a proactive model that focuses on institutional and sociological factors such as college policies and procedures, academic rigor, pedagogy, and campus culture, among others.

The more technologically advanced the United States becomes, the more social anomie is generated (Durkheim, 1897). Despite the fact that technology has created greater interconnectedness, traditional social connections that evolved over thousands of years are being usurped by virtual ones. This trend appears to support Durkheim's observations of industrialization as a factor in the increase in suicide incidence within society, as technology diffusion is a natural evolution of industrialization.

The phenomenon of increasing college student depression, anxiety disorder, and suicide is likely to be the result of a complex set of factors. Such factors include a societal trend toward perfectionism (Mann, 2004), as well as the inherent stress in the college admissions process that leads many students who gain admission to highly selective schools feeling compelled to stay at all costs, even their mental wellbeing. Additionally, social isolation and underlying stress were exacerbated during the COVID-19 pandemic.

Legal Issues

Students must navigate their way through college within the context of a significant power imbalance. The faculty and administration hold most of the power on college campuses due to numerous factors, as college students often find themselves on their own and lacking the very support networks they have relied upon throughout their lives. Of note is the fact that the Family Educational Rights and Privacy Act (FERPA) precludes a significant degree of parental involvement in academia (FERPA, 2018). Students are left to advocate for themselves, but

sometimes lack the skillsets necessary to do so. Students who are struggling academically often find themselves in downward academic and psychological spirals that result in depression, anxiety disorder and, at the extreme, suicide (CCMH, 2020). Even when students are identified by school administrators as being at risk of mental illness, FERPA established privacy restrictions that, except in extreme situations, preclude schools from disclosing this information to parents and other family members without the students' express permission (APA Resource Document, 2016).

Additional Considerations

Mental illness stems from biological, familial, and societal factors. Neurochemistry, genetics, and familial predisposition are all factors that can lead to mental illness on an individual basis (Ahn, et al., 2009). However, numerous studies have determined that depression, anxiety disorder, and suicide exhibit social patterns. For example, Durkheim found societal patterns related to suicide in particular; social systems demonstrate measurable rates of suicide depending upon levels of industrialization. Other societal factors include religious affiliation and social anomie (Durkheim, 1897). Interestingly, a 2011 paper derived from the Framingham Heart Study suggests that rates of depression and suicide can increase in strong, closed social systems when depression and suicide are observed by members of a given community (Rosenquist, Fowler, and Christakis, 2011). College campuses represent very closed social systems. As such, it is possible that increases in depression and suicide are creating a naturally occurring vicious cycle of observation and transfer of disease in college once a critical mass of incidence is reached.

Although rates of depression and anxiety disorder have been rising within the general population, the rates of increase among college students have been significantly higher (Rostain

and Hibbs, 2019). Based upon information obtained from an initial review of the literature, coupled with direct observations, it could be proposed that college campuses embody a unique set of dynamics that are feeding this disproportionate rise, effectively creating negative synergies within the college setting. College students are under intense pressure, and those at rigorous schools that employ traditional pedagogies are under the greatest stress. Additionally, many college students who are living away from home for the first time find the transition to college one that creates social anomie, as they lack the social networks and support systems that they grew up with. As such, investigation into solutions that are unique to the college setting are warranted.

CHAPTER II: REVIEW OF THE LITERATURE

Literature Review Approach

A systematic literature review was conducted to answer the research question:

What institutional interventions should be implemented to mitigate student depression, anxiety disorder, and suicide at United States colleges and universities?

Three databases were used for this literature review, namely: PubMed, PsycInfo (American Psychological Association), and Scopus. PubMed was selected as a comprehensive database that spans biomedical and life sciences. As such, studies related to neurological and psychiatric determinants of mental illness are found here. PsycInfo was chosen as the primary source of psychological scholarship. It is important to note that psychiatry and psychology are different disciplines. Psychiatrists are physicians who diagnose and treat mental illness; many psychiatrists limit their practices to psychopharmaceutical management. Psychologists hold doctoral degrees such as a PhD or PsyD, and are licensed to diagnose mental illness and engage in talk and cognitive therapy. However, they are not licensed to prescribe psychopharmaceuticals (APA, 2016). Scopus, which is an abstract and citation database, was selected as a key source of scholarship related to sociological factors of college student depression, anxiety disorder, and suicide.

Consistent with the conceptual model represented in Figure 1, the searches were designed to find available literature that explores individual, sociological, and institutional characteristics as they relate to identified outcomes. As illustrated in Figure 1 below, the following concepts were utilized in conducting this literature search:

- **Population:** The population relevant to this search, particularly college students. In this case, terms such as "college students" and "university students" were used to limit search results to those individuals relevant to this systematic review. In databases that provide age range filters, the appropriate age range filters were employed.
- **Disease:** The mental disorders relevant to this search, particularly those with incidence rates that are increasing within the college student population. In this case, terms such as "mental illness," "depression," and "anxiety disorder" were used to limit search results to those mental disorders relevant to this systematic review.
- **Factors:** Potential underlying factors that are leading to increases in college student mental disease. In this case, both identified and hypothesized factors were used to identify relevant studies. Identified search terms include "counseling center" and "stress," and hypothesized factors include "perfectionism," "pedagogy," and "academic rigor."
- **Outcomes:** Broad term used to identify possible outcomes of college student mental disease. Such outcomes include "mental wellness," "suicide," "chronic/acute depression," "chronic/acute anxiety disorder," "failed counseling," and "successful counseling."

Table 1 provides an overview of the literature search based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Liberati, et al., 2009).

Table 1: PRISMA Search Terms

	Search Terms
Population	"college" or "college students" or "university" or "university students" or "undergraduates" or "undergraduate students" or "higher education" or "higher education students"
	AND
Disease	"mental health" or "mental illness" or "mental disorder" or "psychiatric illness" or "psychiatric disorder" or "depression" or "anxiety" or "anxiety disorder" or "depression and anxiety" or "depression and anxiety disorder"
	AND
Factors	"counseling" or "counseling center" or "perfectionism" or "pedagogy" or "academic rigor" or "stress" or "college student stress" or "college admissions stress" or "mental wellness programs" or "mental illness prevention" or "mental disorder prevention" or "suicide prevention" or "stigma"
	AND
Outcomes	"mental wellness" or "mental health" or "suicide" or "chronic depression" or "chronic anxiety disorder" or "chronic depression and anxiety disorder" or "hospitalization" or "acute depression" or "acute anxiety disorder" or acute depression and anxiety disorder" or "failed counseling" or "successful counseling"

Based upon a review of secondary data sources, including those published by the CCMH (CCMH Annual Reports, 2009 to 2020), the American Psychological Association (Novotney, 2014), and NAMI (NAMI, 2020), the sudden rise in college student depression and anxiety disorder can be tracked to an onset year of 2008. In light of these data, the Principal Investigator (PI) determined that a literature review of relevant articles published between 2000 and 2020 was an effective range. By including articles published five-years prior to the reported increases in disease incidence, it was possible that studies would be found that foretold the college campus mental health crisis.

Validity and Operationalization

As noted earlier, there are only a limited number of studies that the PI was able to identify that address certain hypothesized factors related to college student mental illness, including pedagogy and academic rigor. Gaps in the literature persisted after conducting these searches, thereby providing direction for future primary studies, including this study. Incidence levels of depression and anxiety disorder can be measured in numerous ways. Outcome metrics are somewhat more difficult to directly measure. Longitudinal studies provide rich sources outcomes data; however, non-longitudinal studies lose track of study participants and cannot be used to predict future outcomes. As such, careful attention was paid to both direct and proxy measures of mental illness and wellness among college students. These measures include college counseling center (CCC) visits, questionnaire results, and suicide, among others.

Inclusion and Exclusion Criteria

To select appropriate studies, a number of inclusion and exclusion criteria were utilized. Given that the focus of this review is college student mental illness, the inclusion and exclusion criteria have been chosen in a manner that will narrow the search to this particular area of scholarship. This literature search serves to inform future systematic reviews that will be undertaken, as the results of this relatively narrow search will provide insights into future search design. The inclusion and exclusion criteria are presented in Table 2 below.

Table 2: Literature Review Inclusion and Exclusion Criteria

Inclusion Criteria	Inclusion Rationale	Exclusion Criteria	Exclusion Rationale
Descriptive and analytical research	Ensures that all relevant scholarship is included	Not published in the English language	Direct review of studies without translation that could introduce study bias
Qualitative and quantitative research	Valid mental illness studies are both qualitative and quantitative	Not published in a peer-reviewed publication	Peer-review provides validation of study quality
Published in a peer-reviewed publication	Peer-review provides validation of study quality	Focus on children and pre-college teens	This review is limited to college students
Published between 2000 and 2020	Significant college student mental illness spike demonstrated to have begun in 2005	Published prior to 2000	Scholarship prior to 2000 falls outside the period of the college student mental illness crisis
Focus on undergraduate students attending U.S. colleges and universities	This review is limited to U.S. and international students attending U.S. colleges and universities	Focus on students attending international college and universities	This review is limited to U.S. and international students attending U.S. colleges and universities
Address mental illness incidence or mental wellness interventions	Ensures that this review is on-point relative to overall objectives	Focus on individual mental illness absent the context of U.S. colleges and universities	Eliminates studies related to populations that fall outside of review
Primary research	Ensures that this review is based upon original research	Systematic Review	Avoids the possibility of this review becoming a review of reviews
Includes one or more measures of depression, anxiety disorder, or suicide	As the primary review topics, studies must address at least one	Depression, anxiety disorder, or suicide are not included	Ensures that studies not focused on primary review topics are eliminated

Search Strategy

All studies identified during the database search process were imported into EndNote X9, a reference management software platform. A Tier I review of all titles and abstracts was then conducted to identify if duplicates existed, as well as to evaluate them relative to inclusion and exclusion criteria. The reasons for exclusion were then noted and summarized. For studies that met inclusion criteria in the title and abstract phase of this process, a Tier II full text review was conducted to confirm or deny eligibility for the final review. Consistent with the title and abstract review, the reasons for exclusion were noted and summarized. All studies deemed to meet inclusion in this review were then imported into Covidence for data abstraction, quality assessment, and study limitations. All studies were also summarized and categorized based upon themes and methodologies. These themes were then used to organize findings within the results and discussion sections of this review.

Data Collection and Abstraction

Study types, aims, findings, limitations, and quality assessments were drawn from secondary full text reviews conducted in Covidence. This process led to the development of a data abstraction table. This tool was utilized to organize the structure of this review, make final determinations relative to inclusion, and inform the results and discussion sections. Additionally, more detailed information was catalogued in a working document for use in the results and discussion sections of this review.

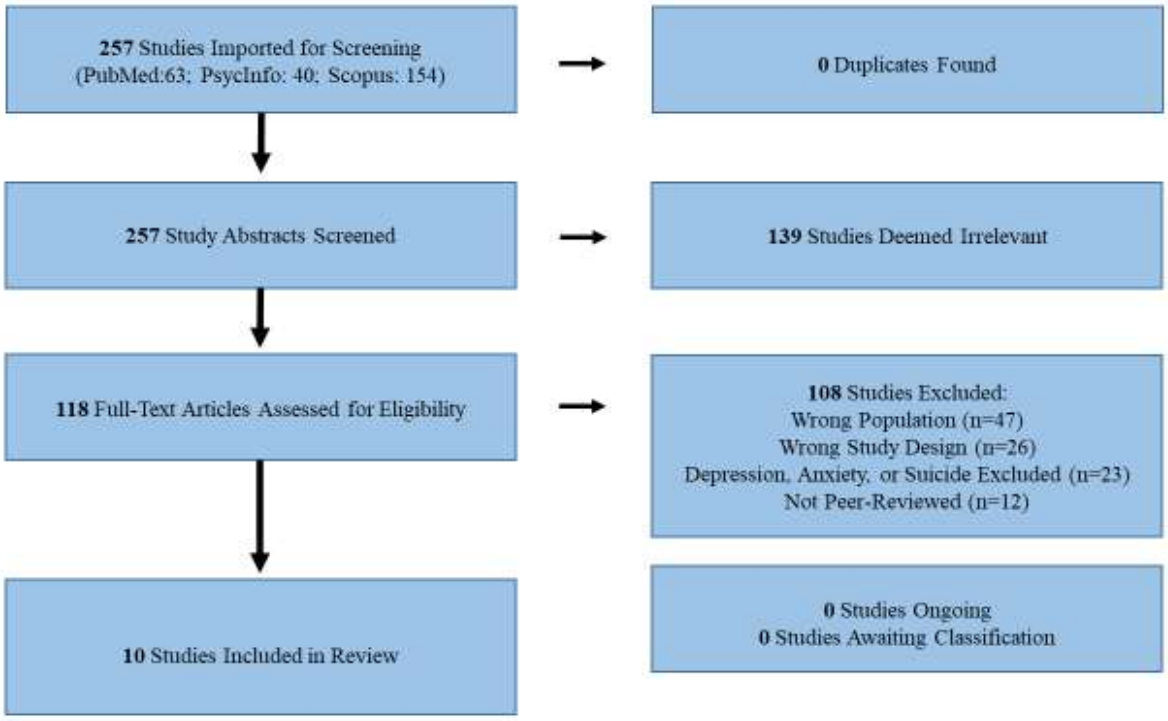
A systematic approach was employed for the collection, abstraction, and cataloguing of information from each study. Although commonalities of approach did exist, slight alterations were made depending upon type of study.

Results

The initial search of keywords yielded 257 unique citations. Of those 257 articles, 63 were derived from PubMed, 40 from PsycInfo, and 154 from Scopus. All 257 citations were then imported into EndNote for screening.

Following a screening of the titles and abstracts for all 257 articles, 118 were deemed eligible for a full text review and imported into Covidence from EndNote. Upon completion of a full text review of those remaining 118 articles, 108 were excluded from the final literature review when the noted inclusion and exclusion criteria were applied. As such, 10 full text articles were included in the final review as illustrated in the flow diagram in Figure 1 below.

Figure 1: PRISMA Flow Diagram



Study Characteristics

This review includes published studies conducted in the United States between 2000 and 2020. The reviewed studies include the following study designs: randomized control trial (n=3), case control study (n=2), survey (n=4), and sampling (n=1). All of the included studies focus on college student mental health and mental illness. There were differences in the interpretation of suicide risk within those studies that dealt with suicide. These variances were driven by the criteria used to determine such risk; some studies deemed suicidal ideation and at least one past attempt as the threshold for identifying at-risk students, whereas others used a more nuanced approach that included numerous factors drawn from the Diagnostic and Statistical Manual of Mental Disorders (DSM). This review provided a representative sample of eligible studies that

can inform college administrators and counseling center professionals in better understanding student mental illnesses and interventions.

Information and Data Abstraction

Appendix A includes the data abstraction overview used for this review.

College Student Mental Illness Incidence and Determinants

Three studies that focused on mental illness incidence and underlying determinants of college student mental illness were identified within the review, namely Oswalt, et al., Hartley, and Jackson, et al. These studies examine factors such as mental illness diagnosis trends among college students, resilience and mental health as a predictor of student persistence, and the impact of self-reported Autism Spectrum Disorder (ASD) on student mental health.

Oswalt, et al. utilized national survey data from the American College Health Association and the National College Health Association (n=454,029) to identify trends in student mental illness (Oswalt, et al., 2020). This study determined that college students self-reported incidence rates for anxiety, panic attacks, and depression that significantly increased year-to-year between 2009 and 2015. Time was deemed to not be a factor in the self-reporting of bipolar disorder, bulimia, and schizophrenia. The authors employed logistic regression models to determine changes in Odds Ratios for student mental illness, finding that current Odds Ratios are 1.68 for anxiety, 1.61 for panic attacks, and 1.54 for depression. Use of and willingness to utilize counseling services in the future (OR=1.37) also increased over time in relation to the 2009 referent year, although not at the same rate as mental illness incidence (Oswalt, et al. 2020).

In the interest of seeking out underlying factors that may increase or mitigate the increasing odds identified by Oswalt, et al., additional studies by Hartley and Stanley, et al. were explored. Hartley used student surveys (n=605) to determine if resilience contributes to

variances in student grade point average (GPA) in addition to aptitude and achievement. Resilience was defined by the author as including tenacity, stress tolerance, negative emotion tolerance, positive acceptance of change, situational control, and spirituality. Positive correlations were found to exist between such resilience and student academic performance. Additionally, higher academic performance, as measured by student GPA, is positively correlated with student persistence. Other factors were also explored, including student sense of campus community belongingness. Numerous multivariable regression analyses were conducted and included several independent variables, such as resilience, academic success, and persistence to mental health. The author found strong positive relationships between the independent variables and student mental health status. As such, this study provides valuable insights into the complex interrelationships that exist between resilience, academic performance, academic persistence, and mental health (Hartley, 2011).

In light of the fact that more students with ASD are attending traditional colleges, Jackson, et al. explored mental illness in college students with ASD. Areas of focus within this student survey study (n=56) include stress, anxiety, and depression. In contrast to Hartley, the surveyed ASD students reported struggling with isolation, feelings of loneliness, stress, anxiety, and depression. Students reported having an average of one to two friends on campus, which may suggest causality with feelings of isolation and loneliness. The most commonly reported self-diagnoses were depression (35.7%), anxiety disorder (33.9%), and social anxiety disorder (26.8%). The Suicide Behavior Questionnaire-Revised (SBQ-R) (Osman et al. 2001) was included in the survey to assess the presence and scale of suicidal behaviors in the study participants. In addition to the findings noted above, the authors found that nearly 75% of the

study participants reported suicidal thoughts and behaviors at some point during their lives (Jackson, et al., 2018).

College Counseling Centers

Three studies included in this review focused primarily on practices based within CCCs, namely Stanley, et al., Chung, et al., and Shaffer, et al. These studies discuss policies, procedures, and models of care within those counseling centers. Initiatives that seek to improve and expedite student care, as well as those that seek to mitigate help-seeking stigma are explored in these studies.

Despite the existence of effective medical and counseling resources for numerous mental illnesses, several barriers exist to connecting patients and caregivers. Stanley, et al. sought to determine differences between traditional psychoeducation and a novel cognitive bias modification intervention designed to reduce help-seeking stigma. This randomized control trial included 32 undergraduate students with a documented mental illness who had denied mental health treatment in the previous year. The cognitive bias modification for help-seeking stigma (CBM-HS) is a computer-based task designed to alter an individual's maladaptive cognitions around stigma. After administration of the CBM-HS tool, a form of Cognitive Behavioral Therapy (CBT), follow-up interviews were conducted with the study group at several time intervals. A 25% reduction in help-seeking self-stigma and perceived public stigma from baseline was observed for the CBM-HS inclusion group at two-month follow-up. This reduction was determined to be significant, as the reduction in stigma related to help-seeking behavior increased over time (Stanley, et al., 2018). This research is instructive to longer-term studies to determine efficacy beyond two-months post-intervention.

A different approach was taken by Chung, et al. in a case control study across eight college health centers. This study focused on the implementation of the Chronic (Collaborative) Care Model (CCM) as an approach to identify, treat, and track students with depression. This model of care was employed in conjunction with the College Breakthrough Series-Depression (CBS-D) Project improvement model, which uses active learning pedagogies to educate students about depression. The CCM is a model that employs depression screening as a core component of medical and general health consultations. Students who were identified with clinical depression (n=801) were treated and assessed during the course of a 12-week post-identification study period. The periodic assessments determined that 93% of students were in active treatment at four-weeks post-identification. Regarding treatment outcome metrics, a statistically significant functional improvement of 52% was measured (Chung, et al., 2011).

Another care model was studied by Shaffer, et al. to determine the efficacy of walk-in triage systems to meet the growing mental health needs of college students. This was a case control study across a two-year timeframe at a single southeastern undergraduate college to determine the efficacy of these systems. Measures of student treatment compliance, no-show rates, student symptom severity at intake, and clinician caseload were taken. A total of 5,556 students were seen during the entire study period. Results showed a statistically significant increase in clients' attendance rates and clinicians' caseloads, a significant decrease in no-show rates, and no change in students' symptom severity at intake between years one and two (Shaffer, et al., 2017).

Alternative Approaches to Student Mental Wellness

A total of four studies were identified in this review that explored alternative methodologies for mental illness identification and treatment, namely Melnyk, et al., King, Lungu and Sun, and Rein, et al. These studies looked at numerous approaches, including online resources for risk assessment and training. All four reviewed studies focused on online resources as additive or replacement identification and treatment tools.

Melnyk, et al. used a randomized control study to determine the efficacy and feasibility of technology diffusion in the treatment of mental illness by implementing the Creating Opportunities for Personal Empowerment (COPE) online CBT skill-building program for first year college students. During the study period of September 2012 to May 2013, 121 first-year college students participated as control group (no COPE engagement) and experimental group (COPE engagement) subjects. There were no significant differences in anxiety and depression between the groups at baseline. However, those students who engaged with the COPE program demonstrated a statistically significant reduction in anxiety symptoms. Additionally, mean GPA was measured at higher levels for the COPE group in comparison with the non-COPE group (Melnyk, et al., 2015).

A second study related to online resources is the randomized control trial of King, et al. King sought to determine the effect of the Electronic Bridge to Mental Health Services (*e*Bridge) on college students at risk for suicide. The *e*Bridge program delivers personalized feedback related to suicide risk and prevention, as well as optional online counseling services. A total of 1,744 students consented to screening for study inclusion and were asked about history of suicidal ideation, history of suicide attempt, depression, and alcohol abuse. A total of 116 students screened positive for suicide risk; of those 116 students, 76 agreed to participate in the experimental phase of the study. Students were then randomized into control and experimental

groups. Students in both groups were given access to the personal feedback module of *e*Bridge. Experimental group students were given the option to engage with the online counseling resources of the *e*Bridge program. Outcomes were measured at two-months post-intervention. The investigators measured high compliance with the *e*Bridge personal feedback module (97% control group and 85% experimental group). However, there was moderate experimental group engagement with online counseling tools (33%). Regardless of moderate use of online counseling, the experimental group demonstrated significantly higher readiness for help-seeking behavior, including perceived need for help (62% control vs. 72% experimental), active therapy (0% vs. 13%), and psychiatric medication (0% vs. 9%) (King, et al., 2015).

The third study focused on online resources was conducted by Lungu and Sun. This survey of 572 college students sought to determine if students prefer online interventions over traditional face-to-face therapy. The survey instrument included questions about modalities such as online disclosure of mental illness formats, tele-therapy, and computer games designed to strengthen emotional coping skills. The findings of this study show that 63% of students are likely to seek help through face-to-face methods. In comparison, 75% of students are likely to seek help through all online methods, with 77% expressing a preference for tele-therapy (Lungu and Sun, 2016).

Rein, et al. authored the fourth study related to online resources. This survey study assessed the efficacy of Kognito. Kognito is a one-time, online program that was used to train college students, faculty and staff (n=2,727) to identify and intervene with students at risk of suicide. All study participants reported significant improvement in confidence related to the preparedness, likelihood, and self-efficacy in intervening with troubled students. Preparedness to intervene for all participants increased by 23%, likelihood increased by 9% for faculty and 27%

for students, and self-efficacy increased by 13% for faculty and 17% for students. Kognito training appears to be effective, on a large scale, in educating users to act in a facilitative role for at-risk college students (Rein, et al., 2018).

Literature Review Discussion

The studies included in this review provide a good overview of current scholarship related to college student mental illness, particularly strategies to mitigate disease risk. It is interesting to note that the majority of these studies focus on interventions, with very few even mentioning underlying factors of college student depression, anxiety disorder, and suicide. It is a positive sign that new studies are dedicated to the college student mental health crisis. However, it appears that the bulk of research in this field is limited in scope, with high levels of reliance on the CCC as the core resource for mental illness identification and treatment. The timeframe that was chosen for study inclusion was demonstrated to be a sound choice, as there were very few papers available from the early 2000s on this topic, with none of those studies meeting the inclusion criteria.

As expected, most studies focused on psychological and psychiatric constructs of mental illness. Nine out of ten studies focused on institutional practices within CCCs, as well as alternative diagnostic tools and therapies, including CBT, designed to positively impact individual pathology. One study used national survey data to assess and describe the rise in mental illness incidence, making that study an outlier within the overall review. Pre-search, the expectation for this review was to find more articles that demonstrated causal factors of college student mental illness in addition to those that assessed interventions to mitigate morbidity and mortality. In light of this gap in the search, the PI plans to build upon this review by seeking out additional databases, as well as expanding search terms in an effort to pinpoint gaps for future

research. If a more broad-based search proves fruitless, then this result will inform future research regarding causality. There are numerous secondary sources, such as the CCMH, that track incidence data; however, these data sources are lacking in measures of causality. What follows are discussions of the key themes identified in this review of the literature.

College Student Mental Illness Incidence and Determinants Discussion

Three studies provided important insights into depression, anxiety disorder, and suicide incidence levels among college students. Of greatest concern is the recent sharp rise in the incidence of mental illness. It appears that the rise in incidence levels is attributable to numerous factors, including possible unidentified causes. A highly-compelling case is made about alarming incidence trends that demand attention. Individual psychological factors such as resilience were shown to have a significant impact on mental health. Additionally, neurodiversity as a causal factor opens numerous avenues of future research. Based upon the information extracted from these studies, the interventions through which college student depression, anxiety, and suicide may be mitigated will require a collaborative, multidimensional approach.

The Oswalt, et al. study is highly informative regarding trends in college student mental illness (Oswalt, et al., 2020). This study is important, as it provides context within which to frame the scope of the college mental health crisis. Hartley defines behavioral and cognitive characteristics of resilience. Hartley's research is illustrative of the individual characteristic of resilience as a mitigator of mental illness, opening the door for the possibility of CBT as a useful tool in reshaping cognition (Hartley, 2011). The Jackson, et al. paper provides an excellent example of a high-quality study that demonstrates the relationship of neurodiversity, particularly ASD, to depression, anxiety, and other mental illnesses (Jackson, et al., 2018). It is important to

point out that ASD is not a mental illness; ASD is a developmental disorder that covers a wide range in the DSM based upon individual issues with communication, sensory processing, repetitive behaviors, and situational adaptation, among other factors (National Institute of Mental Health, 2020). This study found strong, statistically significant correlations between ASD and mental illness. Additionally, college students with ASD face daunting challenges with respect to social and academic integration. Of greatest alarm is the heightened suicide risk of students with ASD, which suggests that mental illness, social acceptance, and academic performance may be confounding variables that put these students at greater risk (Jackson, et al.). An interesting paper that did not meet eligibility criteria in this review is notable. A review conducted by Griggs sheds light on one underlying cause of college student mental wellness, namely hope. Griggs presents an interesting line of inquiry about hope as a mitigator of depression and suicide (Griggs, 2017). As a result, it may be possible to develop targeted CBT to improve students' sense of hope. However, hope cannot be quantifiably measured, leading to a high level of subjectivity when determining if students exhibit hope or not.

College Counseling Centers Discussion

Those studies that addressed different models of care in CCCs are instructive to colleges in the treatment of students with identified mental illness. These studies explored important issues such as stigma as a limiting factor in student help-seeking behavior. Unfortunately, stigma is a persistent social construct that keeps many college students from seeking care. Even when students have summoned the courage to seek out mental health services, they are faced with barriers to access. Traditional CCC registration systems often result in extensive waits for an initial consultation, leading some CCCs to implement walk-in triage systems. These triage systems have been shown to improve both student access to care and therapeutic persistence.

Student compliance with therapy also appears to be dependent upon the care model of the CCC, with a collaborative model of care demonstrated as highly efficacious in the treatment of college student mental illness.

Stanley, et al. delved into the important issue of stigma as limiting student access to CCCs. This study was premised upon the findings of Corrigan in a 2004 study on stigma as a barrier to mental health-seeking behavior. Corrigan found that people in need of mental health services opt not to pursue them, or drop out of therapy after it has begun (Corrigan, 2004). One of the underlying factors for this behavior is the perceived stigma that may come with being labelled as having a mental illness. Corrigan suggested that CBT could be an effective intervention in reducing help-seeking stigma; a concept that Stanley, et al. confirmed for short-term CBT as a mitigator for reducing help-seeking stigma (Corrigan, 2004) (Stanley, et al., 2018).

Shaffer, et al. and Chung, et al. employed case control studies to determine the efficacy of different care models in CCCs. Shaffer, et al. provide a clear view of the benefits of changing intake and triage systems to improve student engagement with the CCC (Shaffer, et al., 2017). Chung, et al. provide a strong case for implementation of a collaborative model of care in the CCC that is multidisciplinary in nature (Chung, et al., 2011). Students accessing the CCC were shown to have better clinical outcomes, as well higher retention rates within the model.

Alternative Approaches to Student Mental Wellness Discussion

Studies that assessed alternative approaches to identifying and treating college student mental illness provide a broad selection of viable interventions. One overarching theme within these studies is the reliance on technology diffusion. All studies included in this category employ online platforms to improve access, as well as deliver diagnostic and therapeutic

services. These platforms were employed in an effort to deliver services that are relatable to the college student population. Additionally, technology was considered to be an enabling factor relative to access to mental health services.

Melnyk, et al. demonstrated that engagement with an online CBT program, namely COPE, was highly-effective in reducing anxiety in first-year college students. Additionally, an increase in mean GPA among the COPE group suggests that symptom reduction may help students to perform at higher academic levels (Melnyk, et al., 2015). Lungu and Sun sought to gauge preferences for online interventions in relation to face-to-face ones. This study does show a significant preference for online interventions; however, it provides only a snapshot in time of that preference (Lungu and Sun, 2016). The *e*Bridge program that King, et al. tested holds great promise for the identification and treatment of active mental illness in general, and suicide risk in particular. An important finding is that, for students in the experimental group, help-seeking behavior, as well as medication acceptance and compliance, significantly increased relative to the control group (King, et al., 2015). This finding is somewhat counterintuitive, as the experimental group's engagement with the online counseling component of *e*Bridge was modest. Rein, et al. found that even a short-term training program, namely Kognito, can have significant positive impacts on both help-seeking and help-preparedness of college students and faculty (Rein, et al., 2018).

To conclude this discussion of studies focused on alternative models, Parcover states that CCC resources are under significant stress due to the increased demand for services. In an attempt to shift the focus of student mental illness away from the CCC, this study provides insights and considerations that point toward social determinants of mental illness. The identification of these social determinants leads the investigator to outline a set of public health

interventions including proactive, campus-wide educational initiatives. This study is primarily prospective in nature and focused on whether, "the public health model provides an approach for reaching more students, decreasing stigma, and addressing mental health concerns before they reach crisis levels." This hypothesis is supported by a single case study (Parcover, 2015).

Quality Review

The Oswalt, et al. study was deemed to be of high quality, as multivariate regression analyses were done on a large sample size of 454,029 drawn from two highly-reliable databases maintained by the American College Health Association and the National College Health Association. This study compares incidence rates and presents trends based upon self-reporting, thereby introducing the potential for bias based upon DSM and societal changes in definitions of the mental illness. Given that Hartley's research design is a self-reported survey, sampling bias and variability in interpretation of mental illness may exist. Additionally, concerns about the quantifiability of resilience exist. These issues lead to an assessment of this study as one of moderate quality. Despite the relatively small sample size of 56 college students, Jackson, et al. is an example of a high-quality study that employed a rigorous randomized control trial design.

The Stanley, et al. study is deemed to be of high quality due to its rigorous research methods, as well as the strong foundation of prior scholarship by Corrigan and other researchers. Chung, et al. acknowledge that their data collection methods were not specifically designed for precise disease prevalence tracking, so there may be some gaps in the data (Chung, et al., 2011). Despite this issue, as well as the loss of one of the eight CCCs, this study is deemed to be of high quality given the scope of the study, as well as the use of proven methodologies. Shaffer, et al. bring an equal level of quality to this review as a result of a consistency of measurement across the study period, rigor of analysis, and instructive findings.

The Melnyk, et al. study was limited to 121 college freshman students; as such, future research with a larger, more diverse group of college students should be explored to validate the findings of this study. Given that the study methodology was sound, as well as the fact that sufficient rigor was applied to all aspects of the study, this research is deemed to be of high quality. Given that Lungu and Sun measured student preferences at a single point in time, this study is deemed to be of moderate quality. Systematic surveillance of college student preferences is advisable to validate that modalities are aligned with the student body. One limitation of the King, et al. study is that the study population was already predisposed to online engagement. Despite that characteristic of the study population, this study is considered to be of high quality. The Rein, et al. study has a significant limitation in that the long-term benefits of a single training session are still unknown, as the study measured improvements immediately following Kognito training. In light of the fact that no long-term benefits can be assessed from such a study design, this research is rated as moderate in quality.

Literature Review Limitations

Although this review has proven to be highly instructive, there are some limitations that warrant comment. As noted previously, most studies are focused on psychological and psychiatric constructs of mental illness. Despite the comprehensive nature of the search terms, the inclusion of the Scopus database, and general approach that rigorously sought to address this limitation, there was a dearth of scholarship that provided insights into sociological factors, specifically social determinants of mental illness. This review also found no studies that considered pedagogy as a contributing factor to college student mental illness. Further research will be required to determine if any such studies are available for review. This was a one-person review and, as such, it lacked multiple reviewers who could have applied unique lenses to the review as well as mitigate potential bias.

Literature Review Conclusions

Overall, this review provides deep insights into the mental health crisis on college campuses. Data is presented that demonstrates a significant, measurable increase in depression, anxiety disorder, and suicide among college students. Additionally, evolved models of care, as well as emerging alternative interventions, are presented. The research question was only partially answered, as effective diagnostic and treatment modalities were identified. However, and perhaps even more important, this review revealed significant gaps in scholarship with respect to broader sociological and pedagogical factors underlying college student mental illness. These gaps validate the need to take a deeper dive into these factors to determine potential associations. If, for example, pedagogical rigor and practices are determined to have a positive correlation to student mental illness, then fundamental changes to pedagogy may prove instrumental to effectively mitigating the student mental health crisis. One such pedagogical approach is Universal Design for Learning (UDL), which is premised upon three primary principles, namely, multiple means of engagement, multiple means of representation, and multiple means of expression (The UDL Guidelines, 2020).

After considering the significant gaps in scholarship that were discovered in this review, it became apparent that an in-depth exploration into possible factors of college student mental illness is necessary to advance our understanding of this complex issue. As such, this review will inform future research into underlying sociological determinants and pedagogical causes of college student depression, anxiety disorder, and suicide. By conducting research that could shift the paradigm of college student mental illness from the current medical model to a social and institutional one, it is believed that a unified theory of college student mental illness causality, treatment, and prevention is achievable.

CHAPTER III: METHODOLOGY

Research Question

Research was focused on college student depression, anxiety disorder, and suicide by asking the following question:

> *What institutional interventions should be implemented to mitigate student depression, anxiety disorder, and suicide at United States colleges and universities?*

Hypothesis

Factors driving college student mental illness transcend well beyond individual pathology. Furthermore, colleges and universities are unique institutions that represent closed social and educational systems. As such, it was hypothesized that a unique set of institutional factors such as pedagogy, academic rigor, policies and procedures, and primary prevention contribute to college student mental illnesses.

Study Aims and Methods

Aim 1: Identify trends in college student depression, anxiety disorder, and suicide.

Research Methods for Aim 1: Analysis of quantitative secondary data obtained from three mental health organizations

Aim 2: Identify institutional factors that may exacerbate college student mental illness.

Research Methods for Aim 2: Key Informant Interviews

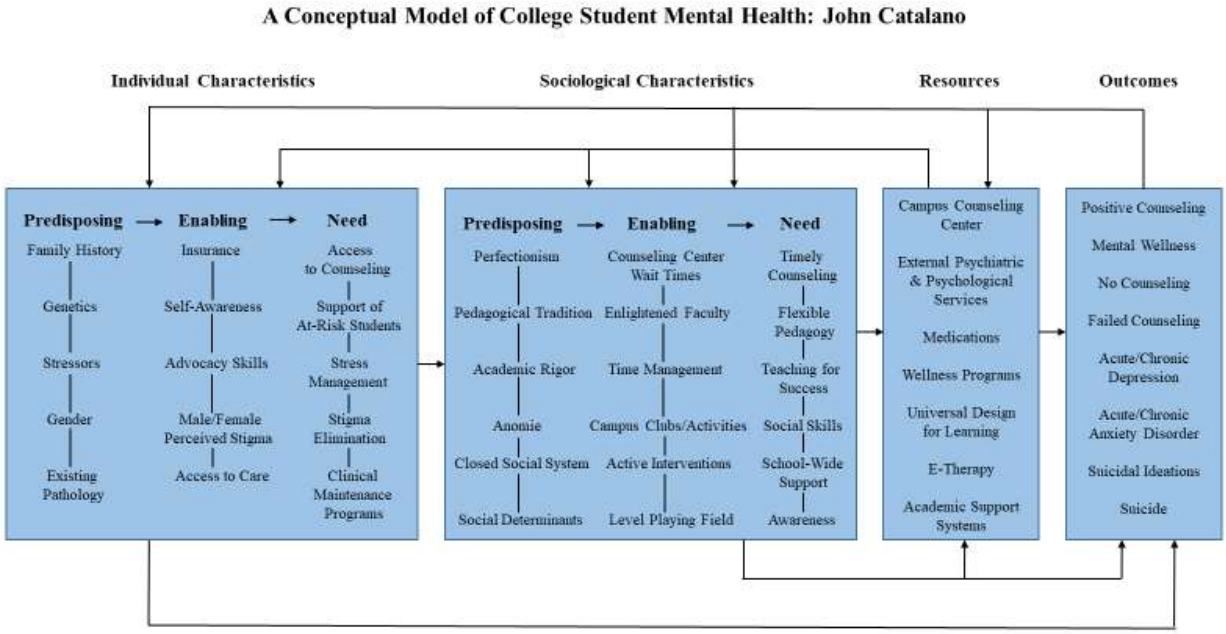
Aim 3: Determine institutional interventions that will serve to mitigate college student mental illness.

Research Methods for Aim 3: Key Informant Interviews

Conceptual Model

Numerous mental health conceptual models were studied, and it was determined that this research would be based on an adaptation of the Andersen Behavioral Model of Health Services. The Andersen Model has been modified to incorporate those factors that appear to be unique to college student mental health. This application of the Anderson Model focuses on those predisposing and enabling characteristics that influence resource diffusion and outcomes for students in distress. The factors included here are not meant to be exhaustive, as the creation of more nuanced conceptual models that each relate separately to depression, anxiety disorder, and suicide will be instructive. The conceptual model presented in Figure 4 is an initial representation of the most compelling factors underlying college student mental health. This model illustrates mental healthcare utilization, barriers to utilization, interventions such as college-wide programs designed to mitigate mental illness, and outcomes.

Figure 2: A Conceptual Model of College Student Mental Health



Source: John D. Catalano (adapted from Andersen) © John D. Catalano

Research Methods Overview

This dissertation employed a concurrent triangulation mixed methods design and evaluation approach. The quantitative component of this research included the collection of secondary data from reliable and valid sources as described below. These data were used to determine the current scope of the college mental illness problem, as well as identify key trends in the incidence of college student depression, anxiety disorder, and suicide. These data served to define the scope of problem as well as provide as a backdrop for the rich and nuanced data collected during the qualitative component of this research. The qualitative component of this dissertation included Key Informant interviews. Key Informant interviews were conducted in a structured manner with CCC Directors and Deans of Students.

Secondary Data Sources

Based upon a review of available data, the following data sources were utilized:

- **The Center for Collegiate Mental Health (CCMH):** The CCMH is an international research collective housed at Pennsylvania State University. Its purpose is to collect, compile and report on data related to college student mental health. These data are organized and supplied by over 600 CCCs. The CCMH publishes an annual report to its member colleges that provide aggregated data, as well as analytical information related to trends. Access to college-specific data is presently blinded by the organization. These data represent academic years 2008-2009 through 2019-2020. The PI extracted data related to college student depression, anxiety disorder, suicidal ideation, suicide attempts, suicide, and CCC utilization.
- **The American College Health Association (ACHA):** ACHA is a national association of member colleges and universities, as well as college health professionals. ACHA engages in advocacy, research, and education with a focus on college student health and wellness, including mental health. ACHA is made up of over 800 institutions of higher education and serves approximately 5,500 individual college health and wellness professionals and leaders. The National College Health Assessment (NCHA) is a nationally recognized research survey designed by ACHA to assist schools in collecting precise data about their students' health habits, behaviors, and perceptions. NCHA distributes school-specific data to its member institutions and publishes aggregated data on its website. The PI extracted aggregated data on metrics including feelings of hopelessness, sadness, loneliness, depression, and anxiety, among others.

- **The National Alliance on Mental Illness (NAMI):** NAMI is committed to building better lives for the millions of Americans affected by mental illness. NAMI provides mental health advocacy at the national, state, and local levels. The organization compiles and reports on mental illness data for the US population as a whole. As such, NAMI provided a wealth of baseline information against which college-specific data was compared. The data drawn from NAMI represented calendar years 2010 through 2020. The PI extracted data on US population trends for depression, anxiety disorder, and suicide. These data were used to define the scope of the college and university student mental health problem relative to general population measures.
- **The American Psychological Association (APA):** The APA is the gold-standard membership organization for mental health professionals in the United States. The APA studies and publishes on virtually every mental health category, including college student mental health. APA has a significant amount of general US population and college student mental health data. In addition, members of the APA publish scholarly articles related to college student mental health. The data drawn from the APA represented calendar years 2010 through 2020. The data extracted related to both college student and general US population incidence of depression, anxiety disorder, and suicide. These data were used to define the scope of the college and university student problem.

Quantitative Data Management and Analysis

Data were collected from the above sources and organized using Microsoft Excel. Analyses were conducted to identify trends and determine if possible associations existed between identified factors. Graphs over time were developed to provide visual representations of

key trends. Additionally, data tables were developed for the PI to use in the analysis of trends and identification of the scope of the problem.

All quantitative data were stored in password protected files on a password protected computer at the PI's office. In light of the fact that these data are publicly available, the PI will maintain the data for an undetermined period of time so that updates may be made to the datasets for future research.

Key Informant Interviews

Data for the qualitative component of this study was collected through Key Informant interviews. Two Key Informant constituent groups were selected, namely: CCC Directors and Deans of Students. Key Informants were given the option to designate someone else within their institution whom they deemed to have better subject knowledge; however, none of the Key Informants did so. The institutions represented in the interviews include research universities and liberal arts colleges. Geographic diversity, as well as campus location diversity (e.g., urban, suburban, rural) was achieved. The Key Informant Interview Questions for CCC Directors can be found in Appendix B. The Key Informant Interview Questions for Deans of Students can be found in Appendix C.

The original study plan was to conduct ten Key Informant interviews with each constituent group across a broad group of institutions within the United States to provide a representative sampling of institutions. Participation invitation emails were sent directly to potential study participants to gauge interest. The mailing lists for solicitation were generated by the PI from the top 200 ranked research universities and top 200 liberal arts colleges, as identified in the US News and World Report College Rankings list, to ensure a cross-sectional representation of colleges and universities of different types across the United States. The use of

research university and liberal arts college designations created a representative list of schools based upon undergraduate student enrollment. Liberal arts colleges tend to have lower enrollments, at ≤ 4,999 students. Research universities tend to have higher enrollments, with ≥ 5,000 undergraduate students. Once the 200-schools in each category were randomized, a total of ten Key Informants from each constituent group were to be selected for a total of 20 Key Informants. Recruitment began with Key Informants with the titles of CCC Director and Dean of Students, or their equivalents. College and university websites were accessed to identify individuals who met participation criteria for recruitment. Emails were first sent to 20 prospective Key Informants from each category in order of randomization. Each week thereafter, another 20-emails were sent in order of randomization until all 200-schools in each category were exhausted. This initial approach of recruitment through email solicitation proved unfruitful. As a result, the PI pivoted to conducting telephone solicitations using the same systematic approach as the email solicitations. Telephone solicitations were successful; however, they entailed over 200 telephone calls over an extended period of time to recruit eight CCC Directors and eight Deans of Students. In light of the fact that thematic saturation had been achieved, and with the approval of the PI's Dissertation Committee, interviews were capped at 16 total Key Informants. The first eight (8) CCC Directors and the first eight (8) Deans of Students who agreed to participate were selected.

When participants agreed to be interviewed, an appointment was then scheduled for a video meeting utilizing the Zoom platform enabled with all available privacy safeguards. The PI orally reviewed the informed consent that was also shared with the participants via email (Appendix D). Informed consent was then orally requested prior to the commencement of the interview. The participants were invited to answer detailed questions about the study. Study

participants were interviewed in English. All study procedures were described in detail such that the participants were fully informed of their requirements throughout the study. During the consent process, the participants were reminded that they were free to choose whether or not to take part in the research study.

A brief description of the study was shared using a standardized script. The meetings were conducted in a one-on-one format. All interviews were recorded using the Zoom platform recording and transcription features with Key Informant permission. If a Key Informant refused video recording, they would have been offered the option to be audio recorded only; however, this was not the case for any of the Key Informants. Privacy risks and confidentiality were addressed by ensuring that all interviews were conducted when the interviewees were in a private location.

Qualitative Data Management and Analysis

The interviews were saved and transcribed in a non-attributable manner to ensure that no reference to the source of any findings would be shared outside the research program. Identification numbers, rather than names, were used on research materials to identify participants. All recordings were saved in password protected files on a password protected computer for coding and analysis. Hardcopies of data and collateral materials such as consent forms have been stored separately in a locked cabinet in the PI's office. Now that the interview data has been analyzed and the study completed, all recordings will be destroyed within two-years to ensure that no responses can be linked to a given individual.

All interview results are presented in aggregate, and the names of the individual participants are kept confidential. Descriptors of Key Informants are included by role (CCC Director or Dean of Students). In order to maintain confidentiality of the interviewees, individual participant names have been excluded. Following each interview, transcriptions were

verified against the video recordings. Transcript-based content analysis of interviews was conducted using a qualitative analysis software package, in which transcripts and field notes were carefully read and systematically coded to identify emerging themes. The content analysis utilized both deductive and inductive coding that served to reveal themes and identify patterns through a multi-phase coding process. The documents were coded so that relevant themes related to the research question under investigation were identified.

The PI performed primary coding of the data using the qualitative data coding software MAXQDA to assist with this process. The PI primarily relied upon their own hypothesis and research findings to inform the coding approach. In addition, another investigator not involved with the research independently reviewed and recoded 10% (n=2) of the transcripts to validate the primary coding. This independent reviewer is a member of the PI's DrPH cohort with a background in social work and health education. The PI asked the independent reviewer to adopt a non-clinical mindset during the recoding process to mitigate implicit bias. This recoding process resulted in 95% interrater reliability. Following the coding of all interview transcripts, the reports were aggregated as a whole as well as within each participant subcategory role (CCC Directors and Deans of Students). Deductive coding factors that achieved thematic saturation were pedagogy, academic rigor, mental illness incidence, campus culture, perfectionism, help-seeking barriers, COVID-19, and institutional interpretation of FERPA and HIPAA. These deductive codes were derived directly from the hypothesized factors underlying student mental illness. Additionally, factors identified during the interview process that reached thematic saturation informed the development of a set of inductive codes, including racial bias, isolation, and loneliness. The coding system was developed exclusively by the PI and is available in Appendix E.

Study Methodology Limitations

College student mental illness and suicide information is highly confidential and HIPAA protected. As such, only aggregate data is available through secondary data sources. 600+ colleges and universities now report campus-specific data to the CCMH; however, those data are kept strictly confidential and not shared outside of CCMH. The APA also aggregates data related to college student mental illnesses. The NAMI data is representative of the entire United States and, therefore, can only serve as a relative metric.

CCC Directors and Deans of Students are bound by FERPA and HIPAA to not disclose any identifiable information about individual student cases. In light of these protections, Key Informants generally did not share mental illness incidence information, particularly at smaller schools where doing so may have inadvertently revealed student-specific identifiers.

When considered as a whole, these restrictions made it difficult to associate an identified set of factors at a particular school to incidence rates of student depression, anxiety disorder, and suicide. Lastly, it is possible that the PI's personal background could have introduced bias into the results of this study despite taking all precautions to remain objective.

IRB Considerations and Confidentiality Issues

This study was submitted to the University of North Carolina at Chapel Hill Institutional Review Board (UNC IRB) for review and approval. The UNC IRB approved the study and deemed it to be exempt from further UNC IRB review under regulatory categories: 2. Survey, interview, public observation; and, 4. Secondary data/specimens, as cited under 45 CFR 46.104 (Appendix F). After the notice of approval with exempt status was received from the UNC IRB, the PI requested review or a reliance agreement from the Molloy College IRB (Molloy IRB), as Molloy is the PI's home academic institution. It is notable that the PI is a member of the Molloy

IRB and, as such, recused himself from any review of this study. The Molloy IRB Chair notified the PI that the study did not require separate approval or a reliance agreement with the UNC IRB as an exempt study.

The UNC IRB approved this study with the data security level of Level II. Level II research requires the following to ensure the security of all data:

1. Access to study data must be protected by a username and password that meets the complexity and change management requirements of a UNC ONYEN.
2. Study data that are accessible over a network connection must be accessed from within a secure network (i.e., from on campus or via a VPN connection.
3. Computers storing or accessing study data must have Endpoint Protection (Anti-Virus/Anti-Spyware) installed and updated regularly where technologically feasible.
4. Patch management and system administration best practices should be followed at all times on systems storing or accessing your data.
5. Users should be granted the lowest necessary level of access to data in accordance with ITS Security's Standards and Practices for Storing or Processing Sensitive Data (when technologically feasible).

All security protocols required of a Level II study were implemented and will remain in place until all data are permanently deleted. As with all studies involving participant specific data, there is a slight risk of loss of privacy for study participants. To mitigate such risk, all study staff signed a confidentiality agreement. All available Zoom platform privacy protocols were employed to further protect the confidentiality of the interviews. The PI explained to all participants that they could withdraw from the study at any time without explanation. No adverse

events are known to have occurred; however, should any adverse events occur in the future, those events will be immediately reported to the UNC IRB.

Timeline

Secondary data collection was conducted between January 2021 and May 2021. IRB approval was obtained in March 2021. In light of the recruitment challenges noted above, Key Informant interviews were conducted between May 2021 and October 2021.

Quantitative data analysis was conducted upon completion of all data extraction from the identified secondary data sources. This analysis was completed between May 2021 and December 2021. Qualitative data coding and analysis was completed between May 2021 and November 2021. Coding was conducted after each interview for the express purpose of adding inductive codes to the coding nomenclature.

CHAPTER IV: QUANTITATIVE RESEARCH RESULTS

Secondary data reflecting rates of reported college student distress and mental illness, as well as CCC utilization, were collected from CCMH and ACHA-NCHA. These data were collected to describe and detail incidence rates of mental illness, underlying factors contributing to mental illness, and associated trends among college students. Additionally, these data provide an objective context for the qualitative component of this study.

All data were collected from public databases and reports. CCMH was founded in 2008, so all CCMH data are reported from that year forward to the last published annual report for the academic year 2019 to 2020. CCMH has changed its survey instrument over the years; however, the PI only included data from questions that were consistently used across relevant survey dates.

ACHA-NCHA began reporting data in 2008, with the 2008 data serving as the reference group for future surveys; however, original reference group data aggregated undergraduate and graduate student responses. The first year that ACHA-NCHA began reporting undergraduate and graduate data separately was academic year 2010 to 2011. Given that the focus of this research is on undergraduate mental health, and in light of the fact that the CCMH data that have also been referenced within this study relate to undergraduate students, the PI chose to exclusively work with the ACHA-NCHA undergraduate data. ACHA-NCHA also introduced the new survey instrument ACHA-NCHA II in the 2010 to 2011 academic year. Changes were made to the ACHA-NCHA II survey instrument after Spring 2011 to create the ACHA-NCHA IIb survey. Additional changes were made to the ACHA-NCHA IIb survey instrument beginning

Fall 2015. It is notable that none of these changes to the original ACHA-NCHA II survey instrument affected the questions that are represented in this study. ACHA-NCHA made significant changes beginning in the 2019 to 2020 academic year to create the ACHA-NCHA III survey instrument. These changes were significant and changed the fundamental nature of the questions used in this study. As such, that academic year dataset was excluded from this study to ensure the reliability of the reported trends. Undergraduate data are reported for each Spring semester, so all ACHA-NCHA data are reported from Spring 2011 forward to the last consistent dataset in Spring 2019.

The undergraduate college student sample sizes for all surveys are itemized in Table 1 below. Please note that CCMH sample sizes are dependent upon the survey questions, so total student responses vary widely from question-to-question. As such, the number of participating institutions as reported by CCMH is provided instead of raw student sample sizes for each survey year. Please note that ACHA-NCHA provides the total undergraduate student sample sizes for each survey year, so the total number of students in the samples are reported.

Table 3: Quantitative Research Survey Sample Sizes

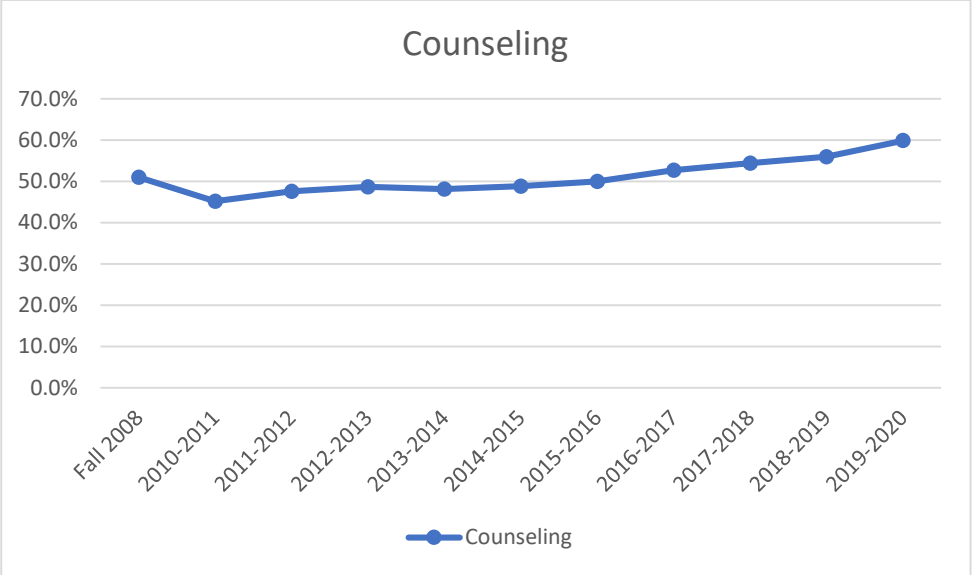
Survey Year	CCMH Number of Institutions	ACHA-NCHA Number of Students
2008	100+	N/A
2009 to 2010	160+	N/A
2010 to 2011	170+	84,760
2011 to 2012	190+	76,481
2012 to 2013	250+	96,911
2013 to 2014	280+	66,887
2014 to 2015	340+	74,438
2015 to 2016	400+	80,139
2016 to 2017	500+	47,821
2017 to 2018	≈550	73,912
2018 to 2019	≈600	54,497
2019 to 2020	600+	N/A

Data Source: CCMH and ACHA-NCHA

Quantitative Research Findings

Figure 3 below illustrates the trend in unique CCC clients as a percentage of total student population at the reporting schools:

Figure 3: Unique CCC Clients as a Percentage of Total Students

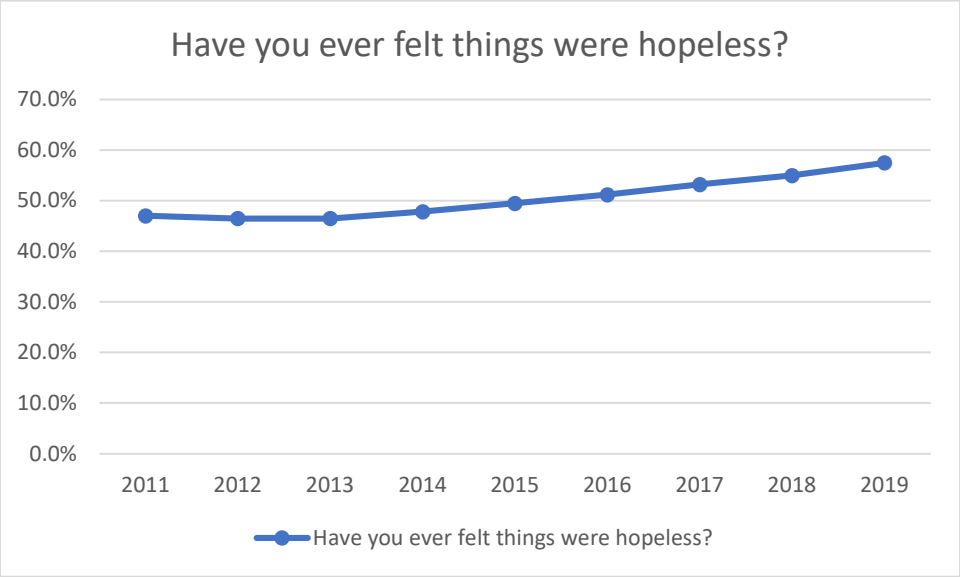


Data Source: CCMH

As this graph illustrates, the number of unique students who are accessing services from CCCs increased 17.5% increase from Fall 2008 to the 2019-2020 academic year. For the 2019 to 2020 academic year, 59.9% of all undergraduate students had accessed CCC services at least once. It is important to note that this increase is not adjusted for resource availability and, therefore, is not strictly indicative of an increase in demand for counseling services.

Figure 4 below illustrates the trendline derived from ACHA-NCHA data for students reporting that they have experienced a sense of hopelessness at any time in the most recent 12-month period of time:

Figure 4: Survey Results-Have you ever felt that things were hopeless?

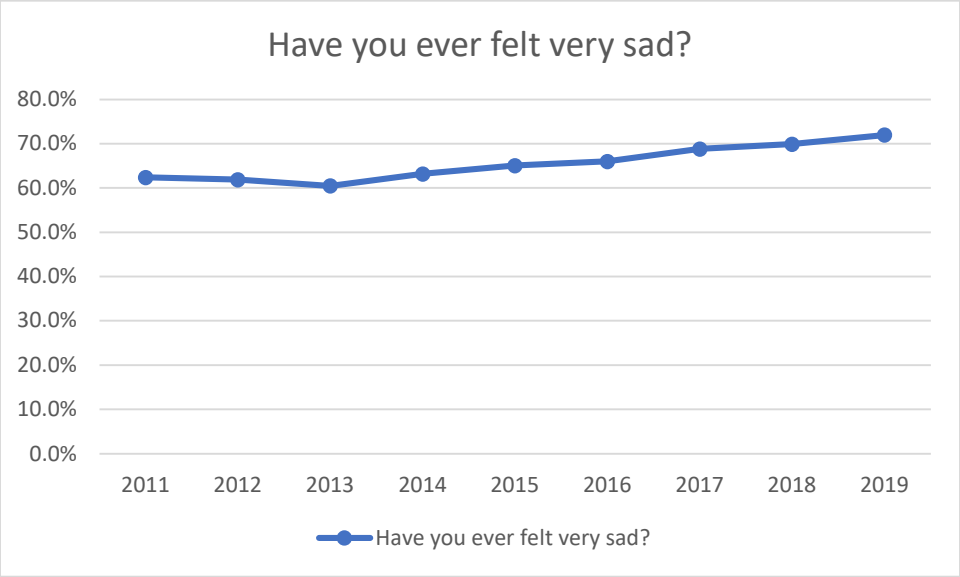


Data Source: ACHA-NCHA

These data demonstrate an increase in feelings of hopelessness of 22% from Spring 2011 to Spring 2019, with 57.5% of students reporting that they had felt things were hopeless in Spring 2019.

Figure 5 below illustrates the trendline derived from ACHA-NCHA data for students reporting that they have felt very sad at any time in the most recent 12-month period of time:

Figure 5: Survey Results-Have you ever felt very sad?

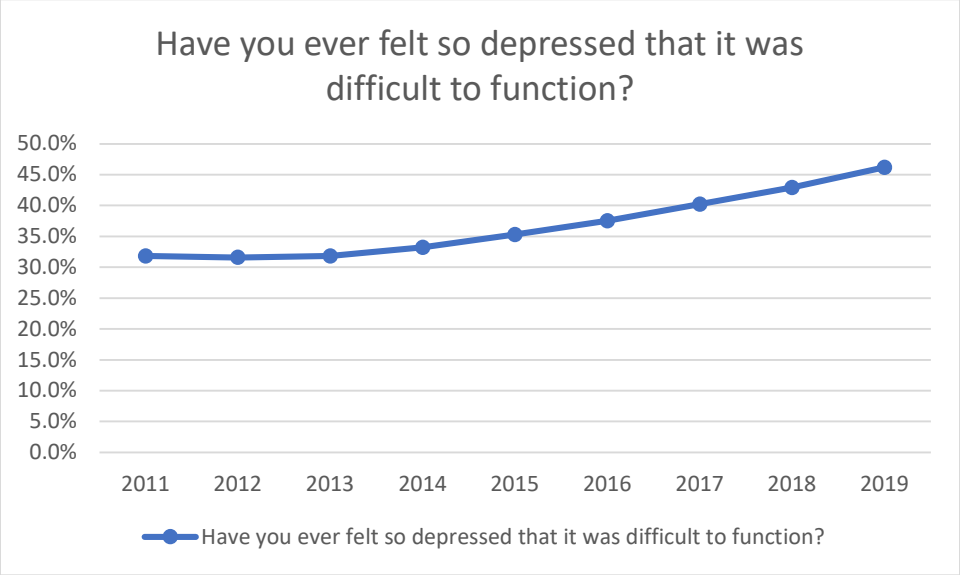


Data Source: ACHA-NCHA

By asking students about sadness instead of depression, ACHA-NCHA has effectively destigmatized this question for students who may have been symptomatic for mild to acute depression but afraid to label themselves as depressed. As this graph illustrates, feelings of sadness increased by 15.3%, with 72% of students reporting that they felt very sad during the past 12-months.

Acute, debilitating depression is directly measured in the next question on the ACHA-NCHA student survey. Figure 6 below illustrates the trend for students who have felt so depressed that it was difficult to function in the past 12-months:

Figure 6: Survey Results-Have you ever felt so depressed that it was difficult to function?

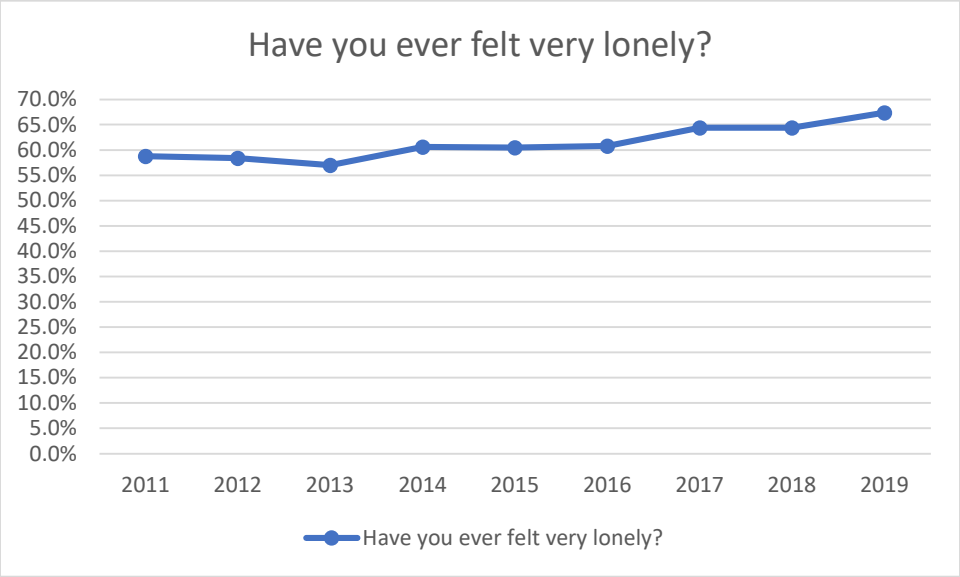


Data Source: ACHA-NCHA

This graph illustrates a very alarming trend. 46.2% of undergraduate students reported in 2019 that they had experienced a debilitating level depression at some time during the past 12-months. This represents a 45.3% increase over the proportion reported in 2011.

Figure 7 below illustrates students' sense of loneliness within their communities:

Figure 7: Survey Results-Have you ever felt very lonely?

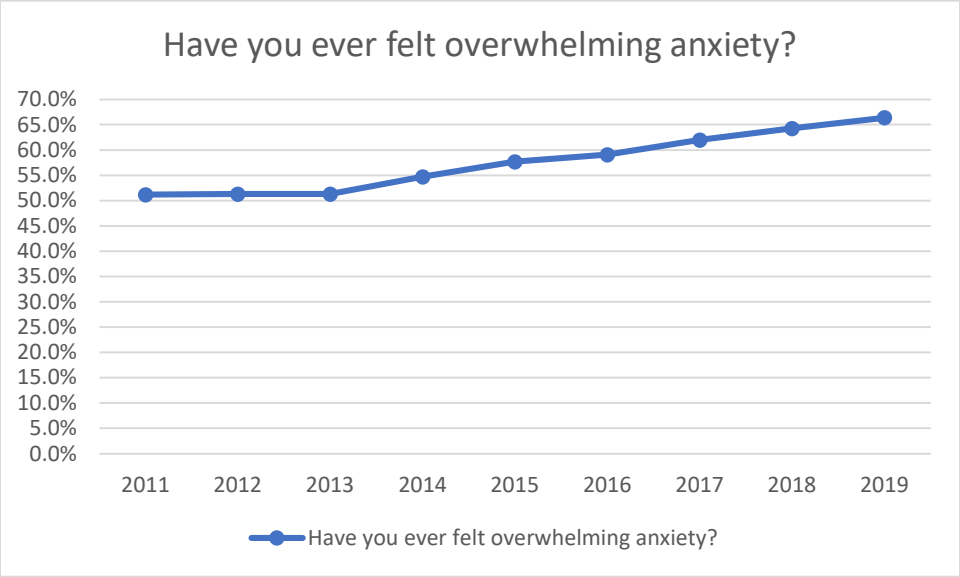


Data Source: ACHA-NCHA

As demonstrated by these data derived from ACHA-NCHA, an already high rate of loneliness increased by 14.6%, with 67.4% of college students reporting feeling very lonely during the past 12-months in the 2019 survey.

Figure 8 below, derived from ACHA-NCHA data, represents trends in feeling extreme anxiety:

Figure 8: Survey Results-Have you ever felt overwhelming anxiety?

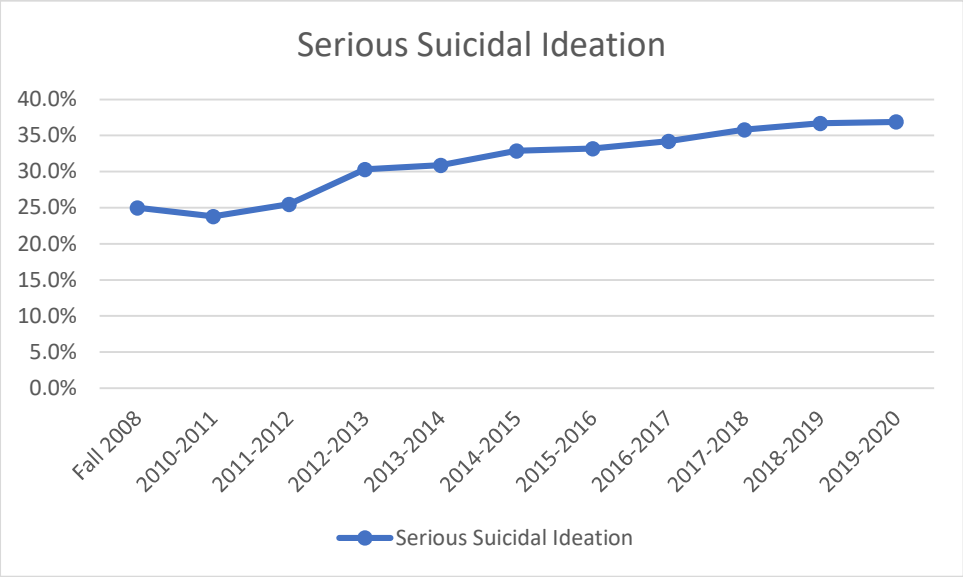


Data Source: APHA-NCHA

This graph represents trends for students who have reported overwhelming anxiety during the past 12-months. As illustrated, an already high rate of overwhelming anxiety in 2011 increased 29.7% in eight-years, with 66.4% of college students reporting feelings of overwhelming anxiety in 2019.

Figure 9 below, derived from CCMH data, illustrates rates of serious suicidal ideation among college students:

Figure 9: Rates of Serious Suicidal Ideation

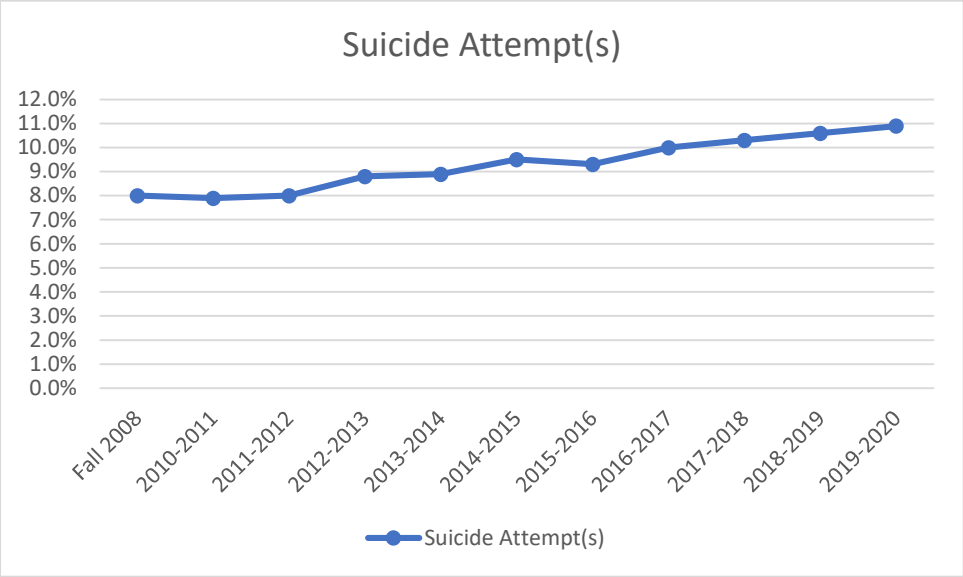


Data Source: CCMH

This graph represents an alarming trend in serious suicidal ideation among college students. Rates of serious suicidal ideation escalated from 25% to 36.9%, representing an overall increase of 47.6% in only an 11-year period of time.

Figure 10 below illustrates another alarming trend in the rates of suicide attempts as reported by CCMH:

Figure 10: Rates of Suicide Attempt(s)



Data Source: CCMH

As illustrated in this graph, suicide attempts among college students rose 36.3% between 2008 and 2020, with 10.9% of college students taking suicidal action in academic year 2019 to 2020.

Quantitative Research Conclusions

Trends and recent rates of indirect measures of student distress, including hopelessness, sadness, and loneliness are all tracking upward. The same is true of all direct measures of mental illness, including disabling depression and anxiety, as well as suicidal ideation and suicide attempts. These data represent young adults who, at their age, should be optimistic about their futures. However, over 57% of them felt that things were hopeless, and 72% have felt very sad. Additionally, over 46% of students reported being so depressed that it was difficult for them to even function, much less excel in their academics. Punctuating this finding is the fact that over 66% of students felt overwhelmed by their anxiety. While these data paint a disturbing picture of the trends and current state of college student mental illness, it is important to state that there

is something very wrong at colleges and universities when nearly 37% of all students are seriously contemplating suicide and nearly 11% are attempting suicide in a single academic year. It is notable that, while all trends represent increases in the incidence of mental illness, the baseline data used from both CCMH and ACHA-NCHA had already reached alarming levels.

CHAPTER V: QUALITATIVE RESEARCH RESULTS

Key Informant Interview Findings

Key Informant interviews were conducted with eight CCC Directors and eight Deans of Students between May 2021 and October 2021. The schools that are represented in these interviews span the continental United States and include national research universities and liberal arts colleges, as self-defined and categorized by US News and World Report in its 2021 Best Colleges rankings (US News and World Report, 2021). The schools represented in this research are ranked within the top 200 by US News and World Report for national research universities and the top 200 by US News and World Report for liberal arts colleges (US News and World Report, 2021). School selection was randomized within the noted selection rankings ranges. In addition to the broad designations of national research university and liberal arts college, the schools represented include public and private schools, as well as urban, suburban, and rural campuses, thereby providing a broad-based sample. One represented school is somewhat unique relative to the other schools. That school is included in these findings, as many themes emerged from this interview that are consistent with those of the other included schools. With this noted, unique characteristics of this school have been removed from these findings to avoid any possible loss of confidentiality. One "matched pair" including a College Counseling Center Director and Dean of Students from the same college is represented in these findings. In light of the fact that thematic saturation has been achieved across all represented schools, findings specifically related to the relationship of the Key Informants in this matched

pair were not included in an effort to avoid any possible loss of confidentiality. Table 4 provides a summary overview of the schools represented in the interviews:

Table 4: School Types Represented in Key Informant Interviews

Key Informant Type	School Type	Campus Setting	Undergraduate Student Population (rounded to nearest 100)
Counseling Center Director #1	National Research University	Urban	25,200
Counseling Center Director #2	Liberal Arts College	Rural	1,900
Counseling Center Director #3	Liberal Arts College	Suburban	3,000
Counseling Center Director #4	Liberal Arts College	Suburban	5,100
Counseling Center Director #5	National Research University	Suburban	7,000
Counseling Center Director #6	Liberal Arts College	Urban	3,700
Counseling Center Director #7	National Research University	Rural	16,000
Counseling Center Director #8	National Research University	Rural	12,500
Dean of Students #1	Liberal Arts College	Suburban	3,000
Dean of Students #2	Liberal Arts College	Rural	1,200
Dean of Students #3	National Research University	Rural	18,800
Dean of Students #4	National Research University	Urban	31,000
Dean of Students #5	Liberal Arts College	Suburban	5,100
Dean of Students #6	National Research University	Suburban	9,000
Dean of Students #7	Liberal Arts College	Suburban	1,900
Dean of Students #8	Liberal Arts College	Urban	3,500

Thematic saturation related to numerous key themes was achieved during the course of the Key Informant interviews. The key prevailing themes are summarized below:

Key Theme 1

The incidence of mental illness among college students, as well as self-reporting of mental illness, have increased over the years that Key Informants have served in their respective roles.

All 16 of the Key Informants confirmed that the incidence and reporting of mental illness, including depression, anxiety, and suicidal ideation, have increased over the past eight to fifteen years, depending upon how long they have been in their roles. None of the Key Informants noted decreases in mental illness or reporting. These findings include Key Informant experiences at their current and previous institutions of higher education. Below is an illustrative quote from a Dean of Students that specifically references stress, anxiety, and depression:

> *Yes, for the most part I mean anxiety. And this is a national trend is true for us too over the last 10 to 15 years. Anxiety…and stress have leapfrogged over depression as the number one issues bringing students into counseling centers all over, including University of X. 20-years ago depression was number one…now it's anxiety, stress, and depression.*

The following quote from a Dean of Students speaks directly to an observed increase in mental illness:

> *I think the biggest challenge that we're seeing now is certainly the increase in mental [illness], and that's been going on for a while. But, you know, I've been seeing a lot more anxiety, and particularly within the last 18-months, but we do see a lot more anxiety a lot more depression [than years ago]. Which, you know relates from the anxiety, and with you know with my population working particularly with [redacted for confidentiality]. It has been something that I've definitely seen an increase in the last 10-years or so.*

Below is a quote from a Dean of Students that specifically references suicidal ideation that is representative of the majority of interviews:

> *I would say that I don't have a number to quantify it but, yes, I talked with more students in probably the last four or five years that are [thinking about suicide]. I think…that they're…more open to telling me, more so than [in the past]. I think [suicidal thoughts] have probably always been there, but I think they're a little more comfortable saying, you*

know, yeah, I have thought about…what if I just did this… so yeah, I'm seeing unfortunately the increasing of that.

The following quote from a CCC Director is representative of several Key Informant observations about a shift in the complexity of the issues that students currently experience:

I feel like when I started there was (sic) more of the manageable issues coming through…by that I mean more of the test anxiety, the roommate conflict. And now, it seems to be…more of the debilitating issues, of things that that do need more careful attention, more specialized treatment. So that's probably another change that I've noticed.

The themes expressed above are reinforced in the following quote from a CCC Director that relates specifically to anxiety:

I think we probably see almost two thirds [of our clients] have some symptom of anxiety as one of the things that [bring them in], and that's a lot higher than I can remember. Not necessarily a full-blown anxiety disorder, but being anxious and worrying intensely.

As noted in the review of the literature, it has been found that the observation of suicide can result in mental health consequences for the observers. The following quote from a CCC Director illustrates how this dynamic has manifested itself:

So, we're seeing that, you know, those factors then are exacerbated by the challenges they're [students] facing on campus. Our senior class, you know they were here for their freshman year…part of sophomore [year], and then maybe last year but maybe not because they have the option to be remote. Well, unfortunately for our senior class, their freshman year, they experienced two students die by suicide and then one student die unexpectedly due to a medical complication. So, that freshman year for them was not normal at all. It was pretty devastating. And we saw our numbers rise, you know, each time we had a death in terms of [accessing our services].

Key Theme 2

Pedagogy and academic rigor are significant factors that underlie student mental health status.

All 16 of the Key Informants stressed that traditional pedagogies, coupled with high degrees of academic rigor, have exacerbated the incidence of mental illness at their schools. For the purposes of this study, a traditional pedagogical model is one in which professors transfer knowledge to students via classroom lecture and expect all assignments and exams to be

completed using a proscribed, single form of expression. Traditional forms of assignment and test completion include written exams and papers, as well as in-class presentations.

Degree of academic rigor was found to be somewhat subjective; some Key Informants noted quantifiable factors including number of hours students are expected to invest in each course. With respect to this metric, several Key Informants referenced a "10 to14 rule," which refers to the number of hours each student will need to dedicate to each course in a given week to be academically successful. Within this study, a high degree of academic rigor is also associated with high faculty expectations of student assignment, exam, and project performance, as well as use of traditional grading systems such as standard distribution curves that result in a set number of students earning an A or B, etc., regardless of raw student performance. As some of the Key Informants point out, students can feel helpless at institutions with such work and grading standards, as carrying a full course load of four to five courses can result in up to 56 to 70-hours of work each week. This work expectation does not take into account extracurricular activities, athletics, volunteerism, etc. The following answer to a question about pedagogy and academic rigor from a CCD Director speaks to these issues:

> *I think that [our level of academic rigor] was a controllable source of stress that they [school leadership and faculty] missed an opportunity on, and I talked to people, including the provost, saying this…doesn't make sense. And they just said: Well, the faculty voted on it…and we have to have some metric for what makes a course a course. And they looked at some data, and for whatever reason, the data they looked at, which wasn't a whole lot, they decided to land at the 95th percentile in terms of demand. They said the most difficult courses in the country, they had some chart, they said require this much…So what they basically said, when you did the math…a typical course should require 10 to 14-hours per week per student. So, if you do the math, four courses is, what, 40 to 56 hours, five courses, 56 to 70 hours. Who would do that? And who would go to a school that that's what they, that's what they advertise: come here and you can study 70-hours a week or go to…an equally good school and they're not going to.*
>
> *So…I just felt that was a huge mistake. And I said: why don't you just say treat it like your full-time job, or make the math add up to 40 max but not 70 max…So, it passed, but then shortly after…I was still teaching in the psych department part time at the time, the Dean sent around an email saying how are you going to guarantee that your course takes*

10 to 14-hours? So, they sent this to all faculty, and I was like, wait a second here. Hey, how do we know…there's so much difference in individuals…[what] would take student A an hour to do might take student B three hours to do. And who do I gauge it against right, do I gauge it against the fastest student or the slowest student. And so, everyone's just guessing. But I think it did cause some faculty to say: well instead of two papers I'm going to have three, or instead of two exams and a final I'm going to have three exams and final, or instead of just a midterm and a final, a midterm and a final project and a final. And I think that I'm convinced that's added to student stress in an unnecessary way because people equated [this mandate to mean] I need to be a rigorous enough faculty member, I don't want to be less than my peers kind of thing and especially if you're new faculty.

Of the 16 Key Informants, 12 referenced significant inertia among faculty, noting that faculty have academic freedom and control of curriculum. As such, administrative leadership is limited in its ability to influence pedagogy and academic rigor. Additionally, nine of the Key Informants stated that faculty are primarily self-directed with respect to pedagogy, rigor, and curriculum development. As such, they do not seek input from students, administration, or staff when considering these matters. The following quote from another CCC Director is representative of comments received about this matter, and also contains a reference to the 10 to 14-hour rule:

It's amazing how many times faculty vote on things without asking the students, like we think this is what they would like too. Have you really asked them? I don't think they really want that. And some of their best students have said you should get in the room with the students you all admire and ask them if these ideas make any sense. And I don't think they [the students] would agree, because when I bring it up, students don't know about it, they don't know about the 10 to 14-hour rule. So, when I occasionally will bring it up in the conversation with someone, they'll go what? It's like, it's not truth in advertising right, if you're going to require that, then why doesn't the admissions office have that plastered all over their brochure?

The following response from a CCC Director to a question about pedagogy and academic rigor as contributing factors to student mental illness provides confirmation and further insight into how students are impacted by traditional pedagogy and high degrees of academic rigor:

It does, we really, we struggle with that. That is feedback our students give us frequently, as in: [University of X] that our academics are too rigorous and that that does impact their mental health, and that they really want for us, as in the Counseling Center, to give

our blessing on mental health days, to be able to take breaks from their academics…I'm on the care team and that's something we just talked about this week…[we] began with the faculty side of things is, you know, yes, it is rigorous. But we also say we believe in your [students'] ability to manage things and get your work done. [Our] goal is never to be so rigorous that it causes mental health issues but that's the feeling that students have. Okay, that's, you know, we are seeing that as a trend. I will tell you that that rigor and, well, more traditional pedagogy does seem to be a contributing factor.

Another CCD Director referenced a school known to be academically rigorous in response to the question about pedagogy and academic rigor:

I don't think it's a coincidence that, you know, that [Institution X] had for a very long time…a very high suicide rate. Matter of fact, I think I oftentimes hear students, when I can get them to get to the point of actually communicating with their professors the struggles they're having because that's always a hurdle, you know, the fear of [faculty retribution if they complain].

One Dean of Students focused on faculty beliefs about rigor and expectations of student time commitment relative to their own experiences:

I think, I worry about...I mean there's always students, most students have at least, not most, but a lot have like one faculty, they'll describe like one faculty member who seems to think, they seem to think theirs is this the only class I'm taking, and they'll describe it in various ways but it's… it just seems excessive, right, if what they say is true. It's like, read a research article every week and do a one-page summary of it, and post it, and then read someone else's posting and grade it. And then, then you have a midterm while you're doing that every week, you also have a couple of midterms, and while you're doing that, there's also a final project, and while you're doing that, there's also a comprehensive cumulative final exam, and it's like, what do they think- why are they doing all this? It just, just seems like busy work for the purpose of, I don't know, maybe getting the…hours or something else but it doesn't seem to be the rigor [that] was intended. It's more like, why don't you have them do a paper and revise it a couple times, like we do as faculty.

Another Dean of Students discussed faculty attitudes at their institution, noting that faculty members employ traditional pedagogy and strive for a very high degree of academic rigor. The following quote illustrates how faculty deal with, or more accurately do not deal with, students who are struggling to keep up:

My role is a little unique from some traditional Dean of Students positions because it's a hybrid of Academic Affairs and Student Affairs, which is, you know, most places you're usually a Dean of Students and it's a student facing role. So, you know, I think the toughest part of my job is quite honestly managing faculty expectations…The faculty have certain expectations about the way students should be or are, or when a problem arises,

their expectation is, well, just fix it. [They will say], you know, talk to the student [and] work it out. Which, you know, sometimes it's not that easy without faculty [involvement].

In the interest of providing a contrasting view from a self-described rigorous school, the following statement from a CCC Director demonstrates how a faculty and administration that are equally invested in student success can positively impact students:

Our faculty members generally are good, caring individuals who seek rigor, but also really do care about their students by and large. And when I ask students who was influential, who has been helpful, they'll run off a list of faculty members who have been helpful to them and who have challenged them. So, by and large, I think that what's happening in the classroom is it's not my area to oversee, but I think what's happening there is reasonable within the context of the realities that we face and with people who are legitimately trying to do the best they can to move students forward holistically. I really enjoy working with the provost. I think we have a great collaboration. We have, over time, built some of those structures that link our areas to help students who are challenged or need to work across the spectrum of trying to have the kind of environment and experience that we want for students. So overall, I'd say we're in pretty good shape on that point.

Key Theme 3

Aspects of campus culture, including levels of collaboration and competitiveness, can have a profound impact on college student mental health.

Campus culture was discussed at length by 15 of the 16 Key Informants. These Key Informants noted numerous factors that coalesce to create a campus culture, including whether the student body tends to be more competitive or collaborative with each other. Additionally, factors that can create feelings of isolation for students were also discussed. Racial bias was raised as a campus culture problem by six of the Key Informants who noted that such bias creates feelings of isolation among students who are deemed minorities within the greater campus community. Nine of the Key Informants also noted that international students generally tend to self-isolate within their own ethnic communities.

When asked to describe the level of competition within their student community, one CCC Director noted the following:

Yeah, it's, I would say something in between, it's not cutthroat, you know, people not trusting each other, sabotaging each other, it's nothing like that. But I think the people feel…there's a lot of collaborative aspects to it but I think students feel pressure like, how do I distinguish myself when everyone here is really, really smart? Right? And how do I, what's going to set me apart, and I think students wrestle, I hear a lot of students wrestling with that one way or another. Like how did I get in with all these people who seem so much smarter than I am, or it's sometimes, it's decision making, I think I mean we all wrestle with this as student development professionals. But it seems like none of us tell students, you know: hey, you should, you should all double major and you should have one or two or three minors, but students just seem to do that…a lot of them, not all, but a lot of them seemed like, well you have one major, I'm gonna have two.

Another CCC Director described the same desire among students to distinguish themselves among their peers:

I'm going to have some minors and [we ask], why are you doing that to yourself...we ask students that and they sometimes have a good reason, like I'm really interested in both and I would take these courses anyway. Most of the time it's just…I'm hedging my bets, or I want to look better on paper and [more minors will do that], so that's some of them…I guess it's become the culture, but it's not so much other people saying, you've got to do this. But they feel, they look around and say, now I need to distinguish myself somehow, and they push themselves, they push themselves really hard. I don't think there is someone else pushing them.

One CCC Director at a self-described competitive school noted that, despite a sense of camaraderie within the community, competition is front of mind for many students:

It probably, I think…from the [academic] measurement perspective, I think they feel the competition more than anything else. There is a usually a good sense of camaraderie and there are smaller groups [they are] broken down into. But I think it's also very competitive and, you know, academics and…competing for, you know, future job assignments when they graduate.

A Dean of Students at a self-described collaborative school noted the positive effects that fostering such an environment can have on students:

Yeah, that's a great question. I've been here for almost twelve and a half years, which is the longest I've been at any institution, and we have strengths and weaknesses. Everybody does. But what I like about the school is with about twelve hundred students or so, there's nowhere to hide. We build ourselves as a small, caring environment and somebody, some employee, the faculty member, or a staff member knows almost every student and is there to help that student. And there's a good sense of community in that regard.

But I think it does also point out the fact that there are a lot of good people here who really do care. And at our heart, we're a small school where you can get that personalized and individualized attention. That's what we market. You always find you try to market your niche, what makes you special.

But I always tell people, walk the campus, talk to people, talk to people who are here and again. I could talk about our shortcomings, but I do think that it is a genuinely caring place where it's hard to be left alone or neglected or not have somebody looking out for you in one way or another.

Racial bias within the faculty was discussed by one CCC Director who also pointed out barriers to reporting such behavior:

I don't know if who has distress is not telling us…maybe we're only seeing [the worst cases]. Maybe all the people that are stressed are coming to see us and everyone else was happy, you know, we don't know for sure, but it doesn't seem that way. It seems, every once in a while…faculty prejudging the student just based on how they look, or how they talk. That's not super common, thank goodness, but there's been cases. We had a black student who wore dreadlocks the very first day in class. The faculty member did not know them from Person C, talked to them after class, and tried to discourage them from taking their class, like "You're not going to be able to handle this class." You don't know anything about this person. So, surprise, surprise, that gets back to all of his friends and all of his network, like don't take Professor so and so.

That's understandable but then nothing happens to Professor so and so because they don't want to file a complaint. And, you know, it's sort of murky. What did they mean by that, and they're friends with everybody in the department? And so…that kind of stuff is hard to change because you can't...students understand, they don't want to make waves. He's like: I don't want to file a complaint, I just want to not take that course, I'm just going to switch classes, I don't want that person grading me, and I don't want to have to take it.

Some students are marginalized and feel isolated within their college communities due to language and cultural differences. One Dean of Students described this dynamic at play, even for United States citizens:

So, when that happens that's just really tough. It's not common but, we've had students who have grown up in the US but you know their second language is English and they speak with an accent, so people assume things about them like: where are you from, really, where are you from, no I'm from New York, or you know, wherever. No, no really, really, like, I'm sorry, I'm sorry. It just, yeah, that kind of stuff is... the student doesn't feel welcome so that's, that's sort of, that's the kind of stress for the person like, "I don't know if I want to stay here, is this really a place for me?" You know, that's not something you need to be wrestling with because of interactions like that.

This same Dean of Students then went on to discuss how this dynamic also extends to members of the faculty:

> *Many [faculty] have biased views and speak their mind about stuff that shows... it's really hurtful to…students and so there's a lot of students like, again, "is this really my community when people are going to assume things about me and say stuff about me like that?*

Key Theme 4

Perfectionism among college students is a significant contributor to mental illness.

Perfectionism was acknowledged to be a key contributor to college student mental illness by all 16 of the Key Informants. Within the context of these interviews, perfectionism was described as an inner drive within students that defines anything but academic perfection as failure. As such, some Key Informants also noted a fundamental lack of resilience within the student body when expectations and results do not match up. As noted in the review of the literature, perfectionism is a well-defined dynamic that appears to be endemic within recent and current generations of college students.

One Dean of Students defined this dynamic at play at their highly-ranked and self-described rigorous school in response to a question about perfectionism:

> *Yes. This generation in particular, they've been expected to be perfect their entire lives, and they just don't know how to not be perfect. Well, and they've been told their whole lives that they're smart and, which they are no doubt, but they…and I know I'm preaching the choir here, the whole idea of resilience and the lack of resilience. They don't know how to deal when they…hit that first wall, where all of a sudden, it's not as easy as, as it's been their whole lives. You know, so that's something that I see particularly in my sophomores When, when, you know, the first year, a lot of them can still get by with the skill set that they've always had and then all of a sudden, the game changes, and they're not quite ready for that change.*

One CCC Director noted that, although there are instances of parental pressure being exerted on students, perfectionism is more typically a manifestation of student mindset:

> *It can be…a small, relatively small number will have family members that are exerting undue pressure, but that's not the norm. Most are like, hey we want you to do what you*

love and we want you to be successful. But some of the students feel like, wow, I have to do better than my parents or I have to make them proud, or I should do this because most of my family's doing this or, you know, some of that's pressure that I think can contribute to mental health challenges if it's not handled really well.

One Dean of Students discussed perfectionism within the context of the long-term academic journey of students, noting how they expect to continue to excel even within a rigorous school and a demanding course of study:

I have seen an impact of that I think the one thing that I talk with students about a lot is this idea of their transitions throughout their life. These are kids that have been high performing. They are students that [have a] combination of their makeup but also…the parents are usually high performing parents that they expect their kids to be high performing right. And, you know, they have been on kind of an academic treadmill their whole life. It's always [been] okay so what's next, what's the next thing, what's the next thing I'm shooting for. And they get to college, and they don't know how to kind of shut that down and how to reflect and how to really synthesize that learning in more than just the performance.

And I think, you know when they get to be juniors and seniors…I think the body is finally catching up to them and says wait a minute, hold the phone, we've been we've been running at full tilt for 13-14 years here let's, let's back off. And I think that that's where we do see some problems with some students because they don't know how to do that, they don't know how to…handle that stress and finally go on overload, and they don't know what to do with it and they think that they're failures. I had a student in here today actually that he was trying to graduate in three-years until this summer and he finally decided to back off on that, and he was like okay I had time on my hands so I signed up for five and a half units and he picked some really tough classes as academic challenge you know a little bit of a stress, and he's like, I don't know what to do now. And I'm like, it's okay to withdraw from the class. It won't hurt you, you know, one W on your transcript will not kill you…yes, you can calm down. You know, so that's what I'm seeing is that these are kids that have been driven their whole lives and they don't know how to back off of that. And I think that stress does get to them.

Another CCC Director drew a connection between the selectivity of a school and the types of students that are accepted and attend when asked about perfectionism as an issue at their school:

I worry about, I think it's not just [University of X], but it's, it's any really, probably, especially selective schools, it seems like we get more than our share of students who multitask, burn the candle at both ends, did heroic and sometimes crazy things to try to distinguish themselves beginning even in high school.

This CCC Director also picked up on the "academic treadmill" theme noted by another Key Informant, and goes further to describe the dynamics at play with students at their highly selective and self-described rigorous school:

> *Sometimes, not always, but sometimes it's, part of it is, they're not sleeping a whole lot, or they're not exercising at all, they're just sitting at their desk or they're not taking the time to really eat carefully. And when you trace that back, it's like well, I didn't have time to really sleep in high school. I could get, I could get by, they'll usually say, I can get by on, and they'll say five hours six hours and I'll sometimes challenge that gently. I'll say get by or be your best self? Right, that's…a different thing there. Not many of us can be our best selves when we're operating like that, routinely week in and week out, so I think it's, some of our work, students are coming to us with a long, with a history of already having shortchanged themselves and some really important self-care activities and then I think they think in high school, some of them think I just got to do this for now and then I'll get into a good school and it'll be great. Then they get into the good school, and like I said, they look around and go wow, everyone here is super smart…I have to keep that up, I have to keep up the, I've got to join a bunch of organizations. I've got to have a couple of majors. I've got to do internships. I've got to volunteer. And those things cannot [always] be done for good reasons, but so many people like collecting credentials. It's what it feels like [to me]. When it's done for the primary purpose of just getting more credentials, then I start to worry about the impact on the student.*

The following statement from another CCD Director explores how perfectionism pervades many aspects of college students' lives:

> *[Our students are] kind of operating that way. Like, I only settle for the, you know, I can't settle for anything less than the best, I have to be number one, I have to get the best of this, the top thing of that, and [I am] trying to gently reframe it in terms of, we can't do that in every aspect of our lives. It's just not humanly possible. Maybe there's a few things we want to be, go for the best we can do, but the other things we got to be what's good enough right what's…it's not settling but it's like, this is good enough, right, if I need, you know whatever, if I need a product, I don't have to get the very best all the time. I don't have to get the best paper towel if it's good enough for the purpose that I need it for. I don't have to research it tremendously to figure out, is this the number one paper towel, you know it's things like that.*
>
> *I think that our culture is, in some aspects of our culture, that, it feeds into…I call it maximizing…and some of the psych literature says it. Are you a satisficer or a maximizer, the maximum always [has to be the goal]? They're just, they regret it if they haven't found the best. They live with a lot of regret or second guessing themselves like, did I really get the best thing, did I, you know, even picking a school? Should I have picked this school even though it's really good? Maybe I could have gotten something different at this other school. That's not a, that's not a healthy way to live…to be, if that's*

your mindset, thinking. You're regretting where you are or what you're doing, or you think you could have gotten something better.

Key Theme 5

Significant barriers to help seeking behavior still exist on college campuses.

Numerous factors were noted as barriers to help seeking behavior by 13 of the 16 Key Informants. These issues include potential loss of confidentiality, fear of being removed from school, fear of hospitalization, fear of parents, and fear of faculty. The most discussed barrier, however, is the stigma of mental illness. Some Key Informants coupled such stigma with socialization to hide mental illness as a protective measure.

When asked if a CCC Director believes that there are students who are not seeking help because of stigma, their response was:

Absolutely, yeah, I actually know that there are.

Another CCC Director discussed stigma as the greatest barrier to help seeking behavior among their students:

Unfortunately, even though it definitely has improved over the, over the years, I think there's still a stigma associated with mental [illness]. So, I do think that that's probably the main barrier, that's preventing students from reaching out to services, whether that stigma is coming from parents that don't believe in counseling or don't want their child to go in, they're a little nervous about coming in. A lot of students get very nervous that it will impact their career…so nursing students, I've heard, get scared that will be [on] their transcript and they won't get [into] a nursing profession because they'll think that…they're crazy. I think just that stigma around it and wondering how, especially this generation…that the appearance, how we look, how we come off to people…I think there's still a lot of that: how is this going to look if other people, you know, know about it? And then the other barrier that I would say is just denial, you know I think a lot of students are not quite ready to deal…with the issue at hand, and they know that once they made the decision to come here [it] kind of becomes real. So, they sort of just prefer to…push it along because they know that once they say it out loud…is more real.

One CCC Director discussed barriers to help seeking behavior in a broad-based manner, noting that influences such as mass media, public perceptions, and perceptions of college leadership can have a negative impact on students who need help:

The unfortunate news is that's not usually what the media stories lead with. You know when you see something about college mental health, that's usually epidemic of anxiety or frail college students, why are they, you know, why do they need all this help? [I say] they needed the help all along, but most of them weren't getting it. Now it's like going from 20% of people with mental health, mental disorders, ever accessing services in a given year up to 60% now accessing services. We should be celebrating that, not complaining about it. It should be a good thing and so, that's the challenge, I think for us as a profession, and for me specifically at [University of X] as well, to shift the narrative from, because it also plays into what you're saying earlier, like when you get another staff person and more people come in, that's seen as a bad thing.

I've actually heard directors and some administrators say: "What's the point of getting more staff because we just need more again in a year or two, and it's just a black hole around for like endless need." And I'm like no, that's not an accurate, that's not what's going on…what we should be saying is we're meeting a greater percentage of the unmet need.

One Dean of Students noted stigma as a problem, particularly among male students. However, they also provided commentary indicating that stigma around mental illness may be declining among men:

Just anecdotally, just the work that I've done with college men for the last 14-years because I worked at coed institutions my whole life but never in a situation where you [I am] the Dean of men, and I'm one of a dying breed…just seeing how mental health manifests itself with young men and particularly the way we're socialized not to talk about it.

I think guys are getting to be a little more comfortable with talking about mental health and a lot of that credit goes to people like Michael Phelps and athletes and public figures that are saying it's okay to not be okay. I think we're seeing more men that are willing to come forward and say, I'm a little messed up here and I need some help, which is wonderful. I honestly, I mean, I know that might skew the numbers in terms of what we're seeing, but I'd rather see that rather than guys suffering in silence in the room.

One CCC Director spoke to fear of parents when relating a particular student case:

I think the harder situation…is when someone's decompensating but not really at risk to that level and no one else knows. That's the toughest situation I think for a counseling center, because we're…I think when we were watching a student that we were pretty sure had anorexia just lose weight week after week, and actually ask their counselor: "Help me fool my parents when they come for parents weekend because they're going to be worried when they see me this thin."

Another CCC Director spoke about how their CCC approaches fear of loss of confidentiality as well as fear of parental reaction to the presence of a mental illness:

> *There's some fine line there that is really challenging to hit just right, but I think that's the whole purpose…for confidentiality [is] people aren't going to come and tell you stuff that's really bothering them if they think you're going to take action on that or tell other people. So…more students are comfortable with other people knowing, but still, I think it would be a barrier for probably some of the people that need it the most.*
>
> *But that's just not a good message to have students thinking about. I mean you really want them to think: "Hey, you can come here in privacy and confidence, get good care, and…your stuff is not going to be easily shared with your parents or somebody else." So that, that's just so hard. What we try to do is, we try to engage the student, like if we really think your parents can be a really, could be a really super ally for you in this, or they might be and you haven't even checked it out. How can we work with them to encourage them to like: well, what do you think your mom and dad would say if you told them? I might say something like: "Well, what could you do to test that out?"*
>
> *Because a lot of times they have a perception that they…would think ill of them…I mean, how can you check that out because that's not how most parents would respond? And occasionally there's a few students that have a horror story about something that the parent did and they have good reason not to want to go there again but for most it's just an imagined hesitation, and we try to reframe it as: we need to expand your support network and the dean's office can be one of those people, or your family, at least somebody in your family probably that you could connect with could be a part of that support system; who can you talk to about what you're going through that so it's not just us, sharing that with you. We're happy to do that but try to get them to expand.*

Key Theme 6

FERPA and HIPAA, along with professional ethics and standards of care, pose barriers to notifying family members and other stakeholders about at-risk students.

All 16 of the Key Informants noted that FERPA and HIPAA create significant challenges in dealing with at-risk students who experience depression, anxiety disorder, and suicidal ideation. These federal acts serve to protect the confidentiality of students; however, numerous Key Informants noted that they would be better able to care for students exhibiting signs of mental illness by including parents, guardians, and other stakeholders in care plans. Professional ethics and standards of care were also noted as nonnegotiable, particularly among CCC Directors. There is significant variation in interpretation of FERPA and HIPAA across the

represented schools. Interestingly, despite the potential risk of breaching confidentiality, some CCC Directors and Deans of Students will do so if they believe it is in the best interest of the student. While FERPA and HIPAA both have provisions for disclosure in cases when a student may pose a risk to themselves or others, the consensus opinion is that schools sometimes struggle in situations that are not well-defined. Additionally, some schools err on the side of caution and withhold notification, even when students are hospitalized for mental illness.

One Dean of Students spoke about proactive communication with students and the use of FERPA waivers in response to a question about FERPA and HIPAA:

> *You know, that's a great question, and it's one that we struggle with, and I think it's for me, I'm somebody where, if I feel that a family member needs to know the information, I do everything I can. What I try to do is work with the student to say you know it really is in your best interest if we talk with your family, you know. And a lot of times I'll say to students, you know, it'd probably be good if they heard it from you rather than from me. Um, you know, but it can be a barrier, particularly if a student is adamant [that], "I don't want to talk to my parents about it I didn't sign this waiver." No, you can't talk to them.*
>
> *But, you know, the, the reality is with FERPA that if we feel that there is a potential harm to self for others, we, we can go ahead and contact. And it's one of those things where…we'll check in with our university counsel and we'll check in with the folks that we need to say okay, are we in the right here to go ahead and reach out to the family? And that's the beauty of a behavioral intervention team or threat assessment team…we can sit there and say okay we're, you know, have we crossed that threshold of saying, should we engage the family.*
>
> *What we try to do, and globally not just within the dean's offices, but also with academic advising when we talk with the students even in their very first advising meetings in first-year we say…we're not going to share your grades with your family. What we're saying is that this gives us the ability, by signing this…waiver, it gives us the ability to help you by engaging your family if we need to…and if you put it in that context, on our campus most students will sign that form without a problem. And then…FERPA is less of an issue to be very honest, so I think a lot of it is how do we talk with our students about what FERPA means and…what FERPA allows us to do.*

One CCC Director defended their adherence to protecting student confidentiality, and stressed the importance of confidentiality and professional ethics in maintaining an effective therapeutic relationship with students:

There should be respect for the confidentiality of that information, clearly. I don't [hear] it so much recently, but I used to [hear] that counseling just tries to put barriers and walls up, and so we really always go back to relationship, and why we do this and it's not about barriers or walls, it's about the therapeutic relationship and trust that our patients have enough to hold their, their narratives, as their narratives.

When this same CCC Director was asked what they would do if they could change anything about their notification policies, the response was:

I honestly feel like this approach has been effective, and I think some of that has to do with [feeling] like my team has a really good relationship with the Dean of Students, and with our Vice President in terms of understanding our role. I think that there, there might be times when they're frustrated, but they respect me and, well, they just can't challenge me. I've been challenged, and I just talked about this [being] my license. This is everybody's licenses, and this is the law. It's not just us, you know, being protected.

It's the law, and we don't want to break the law, and they don't want to violate student's ability to use us for what they need.

Another CCC Director discussed the subtle balance that must be struck when asked the same question about changing notification policies:

I don't think so. I think the system we've got, at least here at [University of X], works pretty well. Because if you don't, the flip side of it is if students know that there's a lower threshold for sharing that they won't even come, right? They won't even, I'm not going to talk about harming myself because then they call your parents and you know, you end up in the hospital and.

There's some fine line there that is really challenging to hit just right but I think it's…I think that the whole purpose, originally, for confidentiality was people aren't going to come and tell you stuff that's really bothering them if they think you're going to take action on that or tell other people.

Another CCC Director was very direct with respect to not disclosing information about mental illness, including hospitalization:

We do not communicate with parents if a child is 18-years-old and they do not sign a consent, even when a student is transported to the hospital for a psych eval. We personally do not have any kind of communication with, with the family members.

So, it kind of sounds like passing the buck a little bit but I like it because then when the student comes back, [there is no] break in our trust. I've had some parents get pretty pissed off, you know, when they come in and talk to me about it. But the students are the rule.

One Dean of Students talked about the challenges of FERPA and institutional fear with respect to communications about at-risk students:

> *I think that we are respectful of privacy, but we're not hamstrung by it. In my mind, I construe a person having a legitimate informational need if there's a reason they're trying to help that student. But I know that when I talk to people, I think there's a good sense of privacy and confidentiality and the need to not violate that in a way that's respectful of students. So, we're definitely mindful of FERPA, but I have worked with and for people in the past who have been paralyzed by fear...you can get sued for a violation, and I think people are sometimes inordinately afraid of it when I think its purpose is noble.*
>
> *But in its application, sometimes it gets misused. So, we're always trying to do the best we can for the student and be respectful of that person's privacy…I think we try to find ways to work with that student respectfully, but not allowing it to get in the way of helping someone.*

This same Dean of Students made a very strong statement about their attitude about the risk of FERPA litigation:

> *I'd rather get sued for doing the right thing than get sued for doing the wrong thing. So, if we get in that position, then I'll apologize and try to explain myself.*

One CCC Director discussed a progressive institutional approach that has been put in place at their school:

> *We actually, we put it in our informed consent too; we say that if you are a risk to self or others, or unable to care for self, we may need to involve others who can help, including, and we list: your parents, the Dean of Students, the threat assessment team. And not necessarily all of them, but whoever needs to be involved in that particular situation. So, on our campus, if someone's being sent to the hospital, like say we initiate it, we contact our campus police who then transports the student. They fill out an incident report: transported Student X to hospital for mental health reasons. We also notify the Dean's office: Student X is going to the hospital right now. And then it is the Dean that lets the family know, and that, it gives us a little bit of a layer of protection, so that the family isn't asking us a ton of questions that we probably can't even answer, like: what's going on at the hospital? But at least the Dean can say: hey, they're going to the hospital. We've got it under control, but you might want to come down or you might want to call. And it fits with our, the culture you are, where the Dean's office is like the home away from home, so they want to be in that role, and that works well for us.*

Another CCC Director discussed the progressive approach their center has adopted with respect to notification and requesting waivers while staying true to the intent of both FERPA and HIPAA:

> *We're pretty liberal and asking for releases of information if we…identify that this is a student at risk, and try to start laying the groundwork for that in terms of talking to their home providers, their parents, and the Dean of Students if necessary. Also, because our care team's pretty active. We do try very hard to take a collaborative, integrated approach and I'm pretty upfront with students that we do that. But at the same time that we're not ever going to share information that is, you know, [privileged]. If it's about safety…we have mandates that we have to share information. But if it's about anything else, we're not going to share anything with anybody outside of our wellness center, without their permission.*
>
> *We run into some barriers [like if] we have a student that we feel we need to refer to the hospital to assess for the determination of a higher level of care. If they refuse to sign that release, we let them email [their family], and that doesn't sit well with them. But eventually the student, and we're sure, that the student will get to the hospital and if they're referred for a higher level of care, generally the student does want support, so they're going to agree to contact their parents or talk to the Dean about getting excuses for classes.*

Key Theme 7

The COVID-19 pandemic has had a profound negative impact on college student mental health.

In light of the fact that this study was conducted during the COVID-19 pandemic, the impact of the pandemic on college student mental health was explored in the interviews. All 16 of the Key Informants noted a significant impact on student mental health. In general, it appears that COVID-19 has exacerbated many of the trends and issues identified within the broader context of this research. Some Key Informants pointed out that it was difficult to fully gauge the effects of the pandemic when students were learning in fully-online modalities, as they did not have the same levels of direct contact with students.

One CCC Director discussed the fact that preexisting trends were exacerbated by COVID-19:

You know, you see the symptoms worsening the students that were already struggling with depression and anxiety. You see those exaggerate, especially the ones that already had some sort of like OCD or like we're already, you know, kind of had their concerns [about] germs, or fear of death. I think clearly this kind of threw…the gasoline on the fire.

The other piece that I've noticed too is the lack of connection, right, so the attachments are not happening, especially the ones that weren't coming physically to campus and enjoy being on campus.

Students that were in abusive relationships, I mean, it was just the worst possible thing that could have happened for any sort of domestic violence or relationship violence, because now people were being completely isolated in that space, and it was challenging for some of them to do teletherapy because the abuser could be in the vicinity of the home. So, in all those ways that can cope it has definitely made mental health more challenging.

One Dean of Students focused on the fact that students were isolated in sometimes stressful home situations. They also noted that there are long-term implications of COVID-19 to be considered for the future care of students:

You asked about students' mental health during the COVID time. It was a little hard to judge because they weren't here, but…conversations told us that they were less engaged. They were feeling a lot of stresses on the family level. I was struck to hear that students were taking classes at home while they were caring for younger siblings because parents had to work. We have a good number of students who are on the edge financially and just trying to make it happen. Their families are in challenging situations and when something like COVID comes along and they try to find ways to just hold it all together; they all have to do a little bit more. So, I know a lot of students were stressed because of family responsibilities, because of loved ones who are ill or people they lost. We were not seeing folks in person. We did a lot of online work with students, and they adjusted well to that. I think we got through it, but I think that the impact of it, as with so many urgent situations, the impact is felt afterward, sometimes as much as it is during. So, I think we're going to be seeing that a lot this year.

Another Dean of Students spoke in depth about the impact of COVID-19 on students, particularly sophomores who did not have the benefit of a residential college experience in their first year:

It had a huge impact…we are a very residential campus, small classes that we pride ourselves on. The [University of X] model, which is small class sizes and a heavy interaction with faculty and supporting staff and all of that. And we pivoted very quickly

within like about two weeks, like everybody else, to going fully remote. Our students, were not ready for that and our faculty were not ready for it.

My constant line since the spring 2020 semester was you know none, none of us signed up for the [online university] but…here we are, you know, we're, doing a remote model and we're not set up for it. I had a lot of students that really, really struggled.

And last year was difficult as well. Even though…we were all prepped for it, we knew it was coming, but we had a number of students that still had a tough time because they came to the [University of X] for what we could not provide last year. So, and what we're seeing, one of the things that…we're talking about with our current sophomores who came to campus, doing remote classes or they were remote for the whole year as first years, never got that orientation experience, never got that. This is what it means to be a [University of X student nickname] and all of that.

Another Dean of students summed up their beliefs about second, third, and fourth-year students who have lived through the COVID-19 pandemic:

They're damaged, and you know what we're seeing from them is a little bit different than in our first years that are coming in now as the class of '25. They're excited, they are going to everything here, you know, even the most mundane orientation type stuff that they would never go to before…like I get to ride a mechanical [University of X mascot]. That sounds fun let's do that.

CHAPTER VI: THE PLAN FOR CHANGE

Based upon the findings of this research, there are numerous initiatives that institutions of higher education can implement to mitigate college student mental illness. The initiatives proposed below are wholly within the control of college and university officials, as they are not dependent upon external variables, including student mental illness pathology. This plan for change will identify those mitigation initiatives, as well as discuss the implementation plan and leadership approach that the PI will apply to be successful in bringing about much-needed institutional change.

The case for fundamental change at the institutional level clearly emerged in both the quantitative and qualitative research components of this study. College student mental illness has risen to an epidemic level, and institutions of higher education have been unsuccessful in stemming upward trends in mental illness with existing approaches. Initiatives related to allocating additional resources to CCCs are beneficial, even if the only benefit derived is to meet pent up demand for services. However, resource allocation continues to fall short of developing a mental wellness mindset within campus communities. This plan for change presumes continued investment in counseling resources, as many colleges and universities, as evidenced in the Key Informant interviews, are actively shoring up CCC resources. With this stated, colleges and universities need to continue investing in student mental health until CCC resources are sufficient to meet current and future demand.

Key Informant interview analysis identified compelling themes that this plan will focus on. What follows is a tactical plan for implementing mitigation interventions for those themes.

Mitigation Intervention 1: Adopt a progressive pedagogical model

This mission-critical intervention involves implementation of a progressive pedagogical model at colleges and universities. As noted by all 16 of the Key Informants, pedagogy and academic rigor are significant factors that underlie student mental illness. A fundamental change in pedagogy is clearly justified, as adopting a more progressive pedagogical model designed to serve the best interests of the students will address many of the themes highlighted by the Key Informants, including descriptions of students who fall into downward spirals when they are struggling academically. Additionally, a progressive pedagogical model can serve to mitigate feelings of hopelessness as identified in the quantitative research. Three primary characteristics that positively impact student success are the focus of this intervention, namely:

A. **Enlightened Faculty:** Faculty that have received professional development training in alternative pedagogical models. These faculty members use active learning techniques that engage students in ways that enhance the transfer of knowledge to students.
B. **Flexible Pedagogy:** A flexible pedagogical paradigm adapts to student learning differences. Such a paradigm requires faculty members to redesign their courses to meet all unique learning styles and needs.
C. **Teaching for Success:** The ultimate goal of education is education. When students are provided with the ability to learn at their own pace, and are graded based upon meeting their unique learning goals, they are given the chance to be more academically successful than students who must adapt to a single learning model.

The PI chose Universal Design for Learning (UDL) as a model pedagogical paradigm. UDL is premised upon three primary principles that provide students with better access to course information, as well as broad-based means of delivering artifacts of learning (The UDL Guidelines, 2021). Those principles are:

A. **Multiple Means of Engagement:** Students will have ready access to course content that is designed to improve engagement. This course content employs multiple mediums and multiple delivery vehicles. Additionally, active learning methods are employed to further improve engagement with course material. Visual learning methods will also be used, including concept mapping and memory matrix. Another highly-effective approach is case-based learning, which leads students to deeply engage with course material. These pedagogical methods provide for student engagement that transcends traditional lecture models, thereby enhancing the transfer of knowledge.

B. **Multiple Means of Representation:** The value of multiple means of representation is multifold. By providing students with options for the acquisition of knowledge, they are able to access information via multiple means. Course content becomes accessible to all students within the UDL model, regardless of learning style. It is incumbent upon the professor to remain flexible in information presentation, as doing so will serve the learning needs of all students. One issue that many students are challenged by is the speed at which they acquire knowledge. As such, forms of representation that allow for different speeds of access will serve all students, regardless of their ability to acquire information. Other tools such as using accessible text formatting, providing a high degree of visual contrast in presentation materials, and employing visual and audio adjuncts provide broad-based access for all students.

C. **Multiple Means of Expression:** Students will have numerous options for their demonstration of mastery of learning objectives. Some example options include written, video, and live presentations. Additionally, students will be provided with other options such as speech-to-text and text-to-speech technology. As a case in point, students with speech disorders can use text-to-speech technology to create an in-class presentation. By providing these options, students can be assessed based upon their actual mastery instead of their ability to adapt to a single form of expression. It is also suggested by UDL proponents that teachers provide greater flexibility with deadlines. In light of the fact that the purpose of education is the transfer and mastery of knowledge, such flexibility has been shown to reduce student stress and improve mastery.

Mitigation Intervention 2: Create a collaborative and inclusive campus culture

College and university administrators and faculty have a great opportunity to actively shift campus cultures away from highly-competitive environments. It should be noted that many schools have been proactive in fostering collaboration; however, far too many schools operate on outdated academic models that reward competition. Such environments reinforce perfectionism among college students, as their academic performance is measured within the context of other students instead of on their own merits. As such, the following initiatives are strongly recommended:

A. **Eliminate normal distribution curves for exam and course grading:** Normal distribution curves, popularly known as bell curves, by their nature, encourage high degrees of competition among college students. When students know that a predetermined number/percentage of class members will receive top grades, those students often go to extraordinary lengths to ensure that they will receive those grades. If

all students who earn a given grade are recognized accordingly, then it is a natural outcome that students will be incentivized to collaborate to achieve the highest possible grades than compete to earn one of the precious few top grades in a given class. Game theory can be used to educate students and faculty about the intrinsic value of cooperation.

B. **Eliminate minimum expected hours of work:** As discussed by Key Informants, academic rigor is sometimes measured by faculty members as the number of hours that a student should dedicate to coursework each week. Additionally, some faculty members act in a manner that suggests that they do not factor in the work required for students to excel in their other courses. Such standards have been identified as harmful to student mental health. As such, curricula and course design should eliminate such expectations and, instead, focus on competencies and learning outcomes. Administrators and faculty can work together to better structure student workload requirements so that they provide for better work/life balance while still meeting the core objectives of education as evidenced in learning competencies and objectives.

C. **Consider implementing a pass/fail grading system:** By adopting a pass/fail grading system, colleges and universities can further foster collaborative cultures and remove some of the stressors acting upon student mental health. The PI recognizes that grades do matter with respect to graduate and professional school admissions, as well as career development. With this stated, changes to undergraduate grading systems can compel graduate and professional schools to modify their admissions standards. The PI recommends a transitional approach to grading, wherein first and second year students are graded on a pass/fail basis during their adaptation to the rigors of college-level work.

This approach will still generate a GPA while providing for important buffer time for first and second year students.

D. **Implement advisement models that limit the number of majors and minors that students can pursue:** This is one of the easiest ways to mitigate perfectionism and competition among students. As noted by Key Informants, the proliferation of additional majors and minors as ways to stand out from their peers leads many students to overcommit and engage in unhealthy behavior. By leveling the playing field for all students with respect to the number of majors and minors they can pursue, colleges and universities will incentivize healthier behavior, such as improving sleep hygiene. This initiative will also help to reduce competition and the need for perfectionism, as all students will be limited in their ability to excel by overcommitting.

Mitigation Intervention 3: Focus on diversity, equity, and inclusion (DEI) initiatives that serve to stem campus community bias

As noted by several Key Informants, bias is a problem on some college campuses. Such bias can take many forms, including discrimination based upon race, learning differences, and cultural practices. The PI recognizes that many colleges and universities have implemented DEI initiatives that target such bias. As such, this recommendation is to not lose focus of those initiatives and to dedicate the requisite resources needed to advance equity on college and university campuses. For those colleges and universities that have not yet implemented DEI initiatives, doing so should be made a critical component of their strategic and tactical planning initiatives to stem campus community bias and help to improve student mental health, particularly for marginalized student populations. DEI initiatives must be campus-wide and infused throughout the community, with education and training delivered to all key stakeholders, including students, faculty, administrators, and staff. Hiring a Vice President or Dean of DEI

does not constitute a meaningful initiative. Doing so is a good start, but the resources necessary to effectively foster an inclusive culture must be applied over an extended period of time. The PI encourages collaboration between those leading DEI and mental health initiatives in recognition of the fact that such interventions serve overlapping objectives.

Mitigation Intervention 4: Implement and expand community-building initiatives that serve to stem loneliness

As discovered in the quantitative research, over 67% of undergraduate students reported feeling very lonely in 2019. Loneliness was also noted by several Key Informants to be a contributing factor to college student mental illness, particularly depression. Several models can be employed by institutions of higher education that serve to reduce feelings of loneliness among students. Implementing and expanding programs such as learning communities and community engagement initiatives will foster more inclusive campus environments that will provide students with a group of fellow students who share their interests. Additionally, building common interests into orientation programs in lieu of common orientation approaches can help new students develop a circle of friends at the outsets of their college years.

Mitigation Intervention 5: Work to destigmatize mental illness and eliminate barriers to help seeking behavior for all students, whether on-campus or remote

The PI recognizes that many colleges and universities have active programs in place to destigmatize mental illness. Despite these efforts, and as evidenced in the Key Informant interviews, there is still significant stigma that must be overcome. With respect to destigmatizing mental illness, ongoing education of students, faculty, administrators, and staff is required to provide a robust support system across the entire campus community.

With respect to removing barriers to help-seeking behavior, alternative care delivery models should be initiated. It is unrealistic to believe that stigma can be completely eliminated,

so care models such as those identified in the review of the literature should be considered. One approach that was demonstrated to be successful is to extend CCC hours so as to provide triage and counseling services during evenings and weekends. By extending hours, CCCs will be accessible when fewer students are on campus and, therefore, greater privacy can be achieved.

In addition to extended hours, the use of technology can provide both privacy and greater access to care for students. The literature review discovered some alternative diagnosis and care approaches that should be explored by CCC Directors.

As identified in the Key Informant interviews, the COVID-19 pandemic has significantly exacerbated college student mental illness. For colleges and universities that remain on a distance learning model, and for those institutions that may need to return to a distance learning model, the use of telehealth applications, as well as online applications, will prove instrumental in providing ready access for students who are not on campus.

Mitigation Intervention 6: Institutionalize proactive approaches to and expansive interpretation of FERPA with regard to parent/family member notification about at-risk students

The Key Informant interviews were very revealing about how colleges and universities interpret and deal with FERPA. Some schools strictly interpret FERPA and do not notify parents or family members about at-risk students in the absence of a signed release. Other schools that the PI views as exhibiting best practices are proactive in obtaining FERPA releases during orientation. Furthermore, several CCC Directors and Deans of Students are willing to accept litigation risk if they believe that a student is at a high enough risk to warrant notification, even absent a signed waiver and release.

As a transitional initiative, a proactive approach to obtaining FERPA waivers during orientation will be adopted as a best practice. First-year students, for the most part, all go

through orientation. As such, educating them about what information will, and will not, be released to family members, coupled with providing them with a waiver to sign in real time, can significantly increase the number of students with valid waivers so that institutions of higher education can act quickly when students are deemed to be at-risk.

HIPAA considerations cannot be ignored in an initiative focused on FERPA interpretation. As such, it will prove important to determine how student information is conveyed from CCCs to college and university officials such as Deans of Students, taking both HIPAA and FERPA into account. The relationship of FERPA and HIPAA, and the interpretation of both federal acts with respect to family notification, will require legal resources to be fully fleshed out.

Implementation Plan and Leadership Framework

The interventions outlined above represent fundamental shifts in pedagogy, campus culture, legal decision-making, and service orientation. Given the significant scope of these initiatives, the PI proposes to build out a coalition made up of experts in numerous disciplines including college student mental health, pedagogy, education law, and civil rights law, among others. Potential coalition members include representatives from CCMH, ACHA, CAST, and attorneys with the requisite expertise. This coalition will form a core advisory group that can inform the actions of a new advocacy and implementation group that will work directly with individual colleges and universities to assess needs and implement change. The PI envisions housing this center within a university setting for several reasons, including the need for institutional support to seek out grant funding opportunities. The PI also wants this center to have an institutional home to ensure that it continues its work beyond the PI's tenure as center director.

It is not feasible to believe that this new center can reach all colleges and universities in a direct, consultative manner. As such, another objective is to develop a playbook for colleges and universities to employ to mitigate college student mental illness. The development of a playbook for use by all colleges and universities will allow for faster dissemination of critical guidance.

The PI will employ a transformational leadership paradigm to build a coalition and bring about necessary changes at colleges and universities. The PI will first approach colleges and universities where established relationships exist, including UNC at Chapel Hill. Other institutions will include those at which Key Informants work, as the PI will be sharing the results of this research with those Key Informants both in exchange for their participation and as a prelude to requesting their participation in institution-specific change initiatives.

These assessment and implementation engagements will include key stakeholders within the individual college or university community, such as CCC Directors, Deans of Students, Deans of Student Life, Faculty Council/Governance members, and, if possible, students. Buy-in of key stakeholders will be gained through shared decision-making.

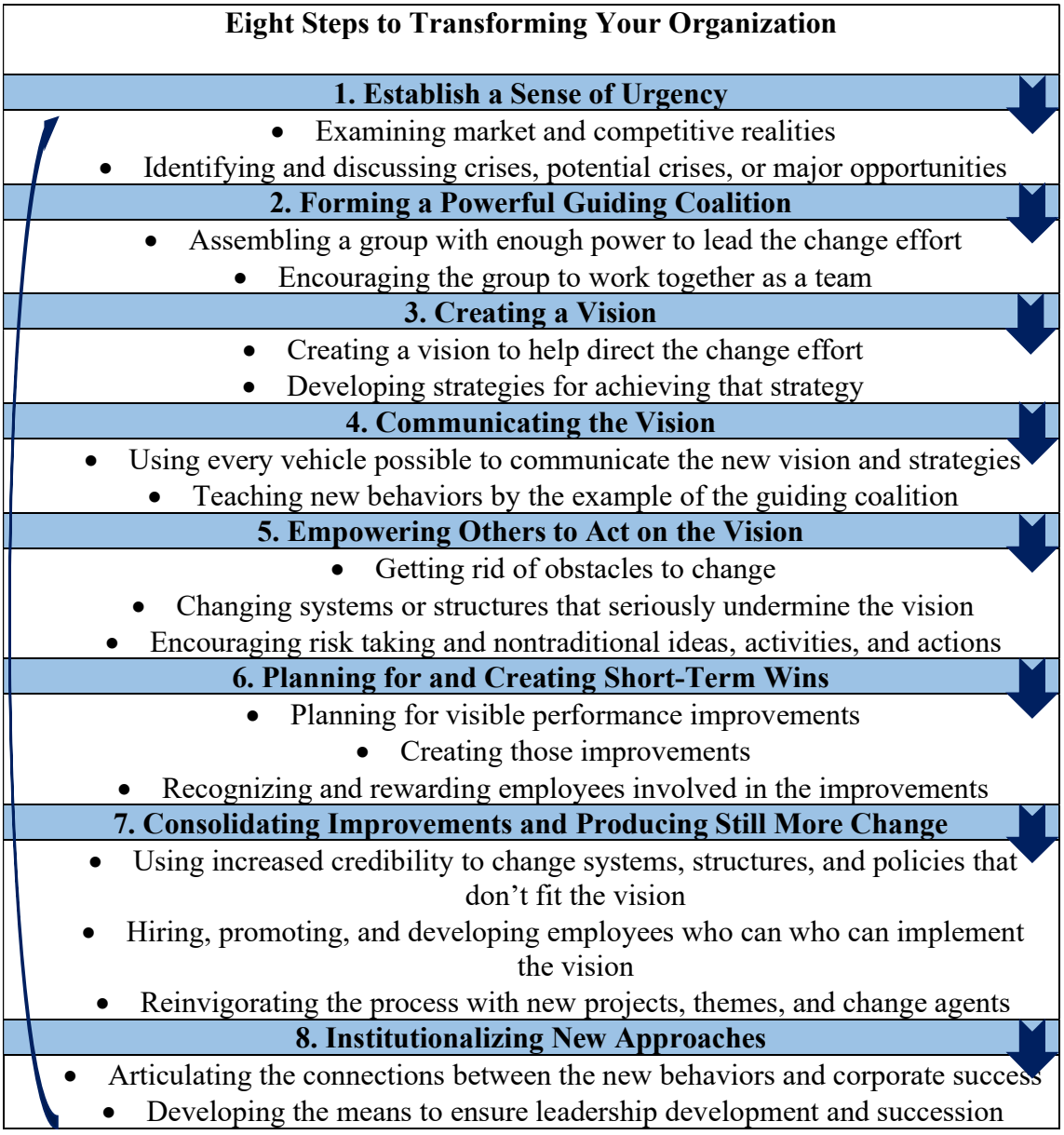
This implementation plan will employ a modified sequential intercept model to provide a proven structure for change. This model will be adapted to inform systemic structures and change agents within the higher education environment. A separate model can be created for each college and university that the center works with so that unique factors can be included in an individualized implementation plan.

The overarching objective of this plan for action is to mitigate those factors that are driving increases in college student depression, anxiety disorder, and suicide. In consideration of the fact that therapy and medications may still fail in averting extreme actions such as suicide, a

plan that seeks to mitigate institutional risk factors is expected to reduce the number of college students who experience mental illness.

The PI will employ the Kotter change leadership model titled, “Eight Steps to Transforming Your Organization” when working with their college and university clients (Kotter, 1996). As illustrated in Figure 11 below, this approach utilizes a structured set of steps that provide for optimal implementation. The Kotter model also includes an iterative process whereby colleges and universities can continually improve processes and programs by employing a continuous quality improvement approach.

Figure 11: Eight Steps to Transforming Your Organization



Adapted from Kotter (2007)

CHAPTER VII: DISCUSSION

This study sought to answer the fundamental question, "w*hat institutional interventions should be implemented to mitigate student depression, anxiety disorder, and suicide at United States colleges and universities?"* The PI adopted a sociological paradigm to answer this question and hypothesized that, in addition to individual pathology, unique institutional factors at institutions of higher education act on college student mental illness. As the qualitative research indicates, both social and institutional dynamics are, in fact, also at play.

The results of this study provide clear and convincing evidence that supports the need for institutional changes at United States colleges and universities. The qualitative and quantitative research findings were self-validating with respect to the scope of the mental health crisis on campuses. The Key Informant interviews also provided highly valuable insights into the factors underlying mental illness. In addition to these insights, interviews informed the Plan for Change presented in Chapter VI. Although the literature review was primarily undertaken to inform the scope and direction of quantitative and qualitative research, it also informed the Plan for Change with respect to clinical service orientation.

The following aims were developed to answer the fundamental research question:

Aim 1 Discussion: Identify trends in college student depression, anxiety disorder, and suicide.

This aim was primarily achieved by analyzing secondary quantitative data obtained from CCMH and ACHA-NCHA. In addition to these quantitative data, Key Informant interviews provided "boots on the ground" corroboration about trends as well as perceived incidence rates

on campuses. The trends identified by this study are objectively disturbing, as they indicate significant increases in student mental illness indicating that mental illness on college and university campuses has reached epidemic levels. Although data related to the impact of the COVID-19 pandemic are not yet in full focus, Key Informant interviews indicate that the pandemic has exacerbated the trends and incidence levels identified by this study. Had this research been undertaken 10-years ago, the quantitative study data alone would have warranted significant concern about the mental well-being of students. As these data demonstrate, colleges and universities are now at a crisis point that demands attention and action.

The number of unique students who are accessing services from CCCs increased by 17.5% from Fall 2008 to the 2019 to 2020 academic year. For the 2019 to 2020 academic, 59.9% of all undergraduate students accessed CCC services at least once according to the reporting CCCs. As noted in Chapter IV, this increase is not adjusted for resource availability and, therefore, does not necessarily solely represent an increase in demand for counseling services. The increase represented here is likely representative of mixed increases in demand and CCC resources. Unless CCCs are fully resourced, it is difficult to determine a pure measure of demand for services. Despite the fact that these data have not been deconstructed, the increase of students in counseling demonstrates, at the least, that there is significant pent up demand for such services. As such, this trend can be viewed as both a positive and negative one; positive in the sense that CCCs are better meeting demand, and negative in that more students than previous utilization data indicate require counseling services.

ACHA-NCHA surveyed students both directly and indirectly about mental illness. Direct measures of mental illness include data from questions related to clinically definable factors such as depression, anxiety, and suicidal ideation, among others. Indirect measures of mental illness

were captured by questions related to feelings of hopelessness as well as feeling very sad. In all cases, the survey data collected by ACHA-NCHA are based upon subjective survey respondent answers to these questions.

The indirect data demonstrate an increase in feelings of hopelessness of 22% over an eight-year period of time, with 57.5% of students reporting that they have felt things were hopeless. Additionally, ACHA-NCHA measured feelings of sadness, which increased by 15.3% over eight-years, with 72% of students reporting that they felt very sad. By asking students about sadness instead of depression, ACHA-NCHA effectively destigmatized this question for students who may be symptomatic for mild to acute depression but afraid to label themselves as depressed. Another indirect metric tracked by ACHA-NCHA is loneliness. ACHA-NCHA data demonstrate that an already high rate of loneliness in 2011 increased by 14.6%, with 67.4% of college students reporting feeling very lonely during the past 12-months in the 2019 report. Although the feelings reported here are not necessarily persistent, they do reflect that those students have had such feelings during the past 12-month period of time measured by the survey.

Direct measures of mental illness were collected from both ACHA-NCHA and CCMH. Acute, debilitating depression was measured by asking students if they have ever felt so depressed that it was difficult to function in the past 12-months. These data reveal a very alarming 45.3% increase over an eight-year timeframe, with 46.2% of students reporting that they reached this level of depression in the previous 12-months in Spring 2019. An already high rate of students who reported overwhelming anxiety in 2011 increased 29.7% in eight-years, with 66.4% of college students reporting feelings of overwhelming anxiety in 2019. By any objective measure, rates of debilitating depression and overwhelming anxiety affecting nearly

one half and two thirds of students, respectively, reflect urgent problems on college and university campuses.

The data related to suicide and suicidal ideation are, in some ways, even more distressing than the data discussed above. Rates of serious suicidal ideation spiked from 25% to 36.9% over an 11-year period of time as reported by CCMH. Very sadly, suicide attempts among college and university students rose an alarming 36.3% between 2008 and 2020, with nearly 11% of students taking deliberate action to attempt suicide in 2020. The data on suicide attempts are likely underreported, as CCCs report these data to CCMH and it is reasonable to deduce that CCCs do not have primary knowledge about all suicide attempts, particularly if they occur off-campus.

The data presented in Chapter IV of this study all demonstrate very high rates of depression, anxiety, suicidal ideation, and suicide attempts among college students following years of increase. In addition to these data, information reflecting students' sense of loneliness, sadness (a potential proxy for depression), and hopelessness also represent alarming trends. In combination, these data readily fulfilled the objectives of Aim 1. If ACHA-NCHA did not change its survey instrument for the 2020 to 2021 academic year, then potential exacerbation of identified trends, along with the effects of the COVID-19 pandemic, would be reflected in additional quantitative data.

Aim 2 Discussion: Identify institutional factors that may exacerbate college student mental illness; and,

Aim 3 Discussion: Determine institutional interventions that will serve to mitigate college student mental illness.

The Key Informant interviews provided a rich tapestry of information that identified numerous institutional and social factors. These interviews also served to inform the PI about interventions that were incorporated into the Plan for Change and will be discussed here.

The Key Informants were generous with both their time and insights, as they delved into sensitive topics that proved essential to identifying those factors that weigh most heavily on students, thereby impacting their mental health. Most important to this study, the Key Informants helped to frame the broad mental health problem within the context of their respective institutions.

As noted in Chapter V, seven key themes emerged in the Key Informant interviews. Each of these themes, combined with the quantitative data presented in Chapter IV, define the scope of the mental health problem on college and university campuses as discussed under Aim 1 above. Additionally, the Key Informants identified numerous underlying factors that they associated with mental illness. Among these factors was the second key theme that pedagogy and academic rigor are significant factors that underlie student mental health status. In exploring this theme, it became clear that the Key Informants, in general, viewed the pedagogical approach of faculty, as well as the degree of academic rigor, as directly acting upon the mental health of students.

This theme informed a central component of the Plan for Change, as pedagogy and academic rigor are factors that are wholly within the control of colleges and universities. Traditional pedagogies, including standardized lectures and assessments designed to rate student performance in relation to their peers, do not consider that students learn differently. As such, a routine approach to education does not work for all students in a given class. As several Key Informants pointed out, academic faculty decision-making related to curriculum, course design,

and academic rigor often excludes input from students, instructional design experts, and administrators. In fact, many new faculty members feel faculty organization pressure to adopt traditional pedagogies and high degrees of academic rigor to be successful in the tenure process.

The Key Informants did not identify academic freedom as a factor by name; however, the concept of academic freedom was described by them in practical terms. Examples include mentions of siloed decision-making regarding pedagogy and rigor, as well as faculty detachment relative to academic rigor and grading standards. As noted by more than one Key Informant, some faculty members design their courses based upon a 10 to 14-hour rule, whereby course design follows the expectation that students must spend 10 to 14-hours per week per class to be academically successful. Further compounding such expectations, some faculty members do not consider other responsibilities of their students. Academic freedom is a core principle in higher education that provides latitude to faculty members to teach in whatever manner they deem appropriate for their courses. Academic freedom serves as an important safeguard against intrusion into the classroom by outside players, including those who may harbor agendas related to politics, religion, and race relations, among others. As important as this principle is in protecting the integrity of higher educational instruction, the Key Informants demonstrated that academic freedom, when applied in a vacuum, can also contribute to student mental illness. One Dean of Students summarized the essence of this problem with the following statement:

> *I think that [our level of academic rigor] was a controllable source of stress that they [school leadership and faculty] missed an opportunity on, and I talked to people, including the provost, saying this…doesn't make sense. And they just said: Well, the faculty voted on it…and we have to have some metric for what makes a course a course. And they looked at some data, and for whatever reason, the data they looked at, which wasn't a whole lot, they decided to land at the 95th percentile in terms of demand. They said the most difficult courses in the country, they had some chart, they said require this much…So what they basically said, when you did the math…a typical course should require 10 to 14-hours per week per student.*

One of the greatest challenges to implementing the progressive pedagogical paradigm outlined in the Plan for Change will be overcoming faculty defenses of academic freedom. Despite the fact that a progressive pedagogy such as UDL will likely be viewed by many faculty members as appropriate and necessary on many levels, faculty may defend against such change if it is not driven from within the faculty organization. As such, it will prove instrumental to apply Kotter to this particular aspect of the Plan for Change so that faculty champions can be recruited to bring about much-needed change.

The third and fourth key themes identified in the Key Informant interviews will be tackled by the Plan for Change. The third theme is that aspects of campus culture, including levels of collaboration and competitiveness, can have a profound impact on college student mental health. The fourth theme is that perfectionism among college students is a significant contributor to mental illness. It is important to note that perfectionism on college and university campuses is an outcome of much broader societal demands on students beginning as early as grade school. As such, colleges and universities have limited control over the impact of perfectionism, as students come to institutions of higher education with perfectionism firmly embedded within their personae. The literature review provided foundational knowledge about this dynamic, and the Key Informant interviews lent clarity to how perfectionism plays out once students make it to colleges and universities.

Racial bias, as well as loneliness, were also identified as factors underlying student mental illness. The Plan of Action calls for ongoing education of all members of college and university communities in an effort to reduce bias incidents and create inclusive campus cultures that are welcoming to all students. The PI views loneliness as intertwined with racial bias. The Key Informants noted that loneliness is a significant mental health factor, and the quantitative

data review defined the broad scope of this factor. Students who feel marginalized within their campus communities, for any reason, will be lonelier than their peers who naturally fit into the broad community, as well as subcultures within the community at-large. Social Identity Theory, particularly the ingroup outgroup dynamic described by Tajfel and Turner, applies to college and university campuses (Tajfel and Turner, 1979). Additionally, the concept of ethnic enclaves is on-point as an extension of Social Identity Theory as it applies to college and university campus culture (Sidanius, Van Laar, Levin, and Sinclair, 2004). Those students who naturally fit into the broad campus culture, as well as students who fit into the many subcultures that exist on campuses, will view those who are not part of their group(s) as outsiders. Students who cannot find their own ingroups within the broader campus community will feel disconnected to others and become isolated from the very people and activities that would otherwise socially connect them. The Plan for Action makes recommendations to assist students to find others with similar interests early on as a way to connect them to the broader community.

Faculty and administrators possess a high degree of control over certain aspects of campus culture, particularly those related to competition and collaboration. Students will tend to become considerably more competitive when the stakes are high. As identified by numerous Key Informants, academic stakes are raised when faculty create a competitive classroom environment, including the use of grading schemes that employ normal distribution curves. Faculty members can foster a more collaborative environment by having students work together so that individual performance is directly tied to success of the whole.

As discussed in the Plan for Change, schools can also develop policies and procedures that can mitigate the impact of perfectionism on students. As recommended, colleges and universities can stem the proliferation of multiple majors and minors through policy, thereby

removing some of the pressure on students to take on far too much work as a way to distinguish themselves from their peers.

The PI recognizes that admission to graduate and professional schools, including medical school and law school, is highly competitive and, to a degree, based upon quantifiable metrics. As such, a discussion about reducing competition and perfectionism at the undergraduate level should also include consideration of the implications for graduate and professional school admissions policies.

The fifth key theme identified in the Key Informant interviews is that significant barriers to help seeking behavior still exist on college campuses. In addition to the Key Informant interviews, the literature review also identified a number of barriers, including stigma, delays in assessment and treatment, as well as resource allocation. The Plan of Action deals with these issues by drawing upon the literature for triage and therapeutic approaches that are aimed at improving access.

The sixth key theme is that FERPA and HIPAA, along with professional ethics and standards of care, pose barriers to notifying family members and other stakeholders about at-risk students. The Key Informants provided significant input about FERPA and HIPAA as barriers to communication. The PI recognizes that HIPAA is more definitive with respect to student-patient privacy. As such, the Plan for Action focuses on expanding interpretations of FERPA in ways that provide for ready communication with family members about at-risk students. FERPA is open to interpretation, and Key Informants reported approaches that covered the spectrum between strict and broad interpretation of the conditions that would constitute a need to communicate with family members. Additionally, some Key Informants informed the Plan for Action with respect to proactive approaches geared toward obtaining FERPA waivers during

orientation. The PI believes that, in the absence of changes to FERPA, such approaches are the best tools colleges and universities can employ to ensure that communication occurs well before a crisis point is reached. In the case of student mental illness, one such crisis point occurs when a student attempts or dies by suicide.

The final key theme identified is that the COVID-19 pandemic has had a profound negative impact on college student mental health. The existence of COVID-19, as well as the far-reaching impact the pandemic has wrought on the world are, of course, well beyond the control of college and university officials. As discussed in the Plan for Change, the use of alternative diagnostic and therapeutic models of care is one way that schools can better serve their students during an isolating pandemic. Faculty members can also employ pedagogical tools such as synchronous teaching platforms, including Zoom, to engender a stronger sense of community than students would otherwise have in an asynchronous learning format.

Limitations of This Research

Several limitations of this research warrant comment. In general, this research was undertaken by a single person. Despite the PI's best efforts to remain objective throughout the course of this study, it is reasonable to expect that inherent biases of the PI are reflected herein. In addition to the PI's role as a doctoral student, the PI also serves as both a faculty member and administrator at an institution of higher education. These roles were disclosed to all Key Informants. It is reasonable to expect that the Key Informants, either intentionally or unintentionally, factored the PI's multiple roles into their responses. With this stated, the Key Informants appeared to be very forthcoming in their responses.

As noted previously, most studies included in the literature review focused on psychological and psychiatric constructs of mental illness. Despite efforts to make the literature search as inclusive as possible relative to social constructs of mental illness, there was a dearth of

scholarship that provided insights into sociological factors, specifically social and institutional determinants of mental illness. The literature review also found no studies that considered pedagogy as a contributing factor to college student mental illness. With these literature review limitations stated, the PI deemed that the lack of scholarly findings in the literature review represented gaps in scholarship that this research will help to fill. As a result of these gaps and lack of exemplars, the PI developed a wholly new research typology for this study. Key Informant Interview questionnaires did not draw upon any existing ones. Additionally, the coding system was not informed by any other studies or coding systems, as the focus and scope of this study are unique in nature.

There are general limitations ascribed to the use of Key Informant interviews, including the reality that interviews are dependent upon the knowledge and expertise of the Key Informants. It is notable that Key Informants likely introduced bias into their responses, whether as a result of their respective personal views on the topics or the presence of the researcher. Selection bias was introduced into this study as a result of the relatively small sample size of 16 Key Informants, as well as recruitment challenges. The original plan to recruit Key Informants via broadscale email solicitations proved unsuccessful, so the PI was compelled to pivot to telephone solicitations that limited participation to those Key Informants that were readily available and responsive. Key Informant interview methodologies also may have introduced bias, as the PI employed a semi-structured interview format that resulted in, at times, heterogeneity in Key Informant responses. Such heterogeneity does not, in itself, imply bias; however, it is noted here to identify the potential for bias. These limitations were clearly mitigated during the coding process, as the interviews resulted in thematic saturation.

Additionally, issues were raised in the semi-structured interview format that would not have otherwise been considered by the PI.

Given the highly sensitive nature of institution-specific mental illness and suicide data, publicly available secondary data were used in this research. As such, there were limitations related to data analysis. For example, it was not possible to measure relative rates of mental illness, suicidal ideation, and suicide across the institutions represented in this study. Additionally, the lack of institution-specific data precluded the potential to determine if contributing factors are associated with mental illness, suicidal ideation, and suicide. The lack of institution-specific data also prevented analysis of the impact of observed suicide on suicide clusters.

The use of secondary data collected from survey instruments not designed specifically for this study is another limitation of note. The sample sizes of these surveys are large and were deemed to be statistically-significant. However, the questions included in the surveys were designed to meet the objectives of the organizations collecting the data. As such, the PI selected those survey questions that were relevant to this research and used indirect question responses, including those associated with loneliness and sadness, as proxies.

In general, quantitative study limitations were addressed through validation. Data collected from the reported sources were triangulated with other data sources in an effort to help provide support of reported rates of change and orders of magnitude. Additionally, the credibility of the qualitative research coding was strengthened through interrater reliability testing, wherein it was determined that congruence of 95% was attained in the application of the coding nomenclature. As previously stated, thematic saturation was also reached during the qualitative coding phase of this study, further validating the results.

Future Considerations

Given that this study is limited to undergraduate students studying at US colleges and universities, there are several opportunities to build upon this research to include other populations and subpopulations.

The PI believes that graduate and professional school students are at equal, if not greater, risk of developing mental illnesses as their undergraduate counterparts. Just as there are unique factors acting upon undergraduate students, the rigors and expectations of graduate and professional study are significant and, in their own ways, unique. There appears to be a dearth of data on graduate and professional students, so it is likely that novel research methodologies will need to be developed to study these particular populations.

One of the articles discussed in the literature review relates specifically to students with learning differences. In light of the fact that colleges and universities vary considerably in their interpretations of ADA, further research into the impact of institutional policies and procedures with respect to students with learning differences is warranted. It is expected that many, if not all, of the identified factors are also acting upon this subpopulation.

Another subgroup that justifies further research are members of the lesbian, gay, bisexual, transgender, queer, and other (LGBTQ+) community. LGBTQ+ students appear to be among those at greatest risk of mental illness, suicidal ideation, and suicide at colleges, universities, graduate schools, and professional schools. Given the potential risk levels of these students, specialized research related to this population should be a priority.

As discovered in the Key Informant interviews, students of color face their own challenges in navigating college life. In light of the fact that racial bias is an identified factor underlying mental illness for students of color, future research specific to the mental health of this population is warranted.

It would be ethnocentric to believe that student mental illness at international schools exhibits the same patterns and arises from the same factors as US colleges and universities. As such, taking a global view of higher education mental health is worthy of serious consideration. Comparative studies can be undertaken to determine where similarities and differences exist. Such research could also prove instrumental if best practices are discovered that can be applied to colleges and universities in other countries.

All of the future considerations noted here are likely to yield important findings that can be employed to further mitigate student mental illness. Additionally, broadening this research may also serve to identify intersectional relationships, thereby informing an expanded plan for change.

APPENDIX A: DATA ABSTRACTION TABLE

(Sorted by Author)

ID #	Study	First Author (Year)	Study Aim	Study Design	Study Findings	Study Limitations
26	A pilot for improving depression care on college campuses: Results of the college breakthrough series-depression (CBS-D) project	Chung (2011)	Begin a pilot quality improvement project employing a Chronic Collaborative Care Model (CCM) for college student depression identification and treatment.	Case control study	Application of a Chronic Collaborative Care Model (CCM) resulted in positive treatment processes and clinical outcomes for the majority of study participants.	Small study size; 1 of 8 original study sites dropped out of study; data collection methods not designed for precise prevalence tracking.
27	Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students	Hartley (2011)	Is academic persistence determined by college student resilience and mental health?	Survey design	Resilience contributes to variances in student GPA in addition to aptitude and achievement. As such, there was a strong statistical correlation between resilience and mental health.	Sampling bias and variance; not all students had a chance to participate; self reporting is not an objective measure of mental health.
197	Brief Report: Self-Reported Academic, Social, and Mental Health Experiences of Post-Secondary Students with Autism Spectrum Disorder	Jackson (2018)	Determine what challenges college students with ASD face in college, with a specific focus on social, mental health, stress, anxiety, and depression.	Survey design	Surveyed students reported struggling with isolation/lonliness, stress, anxiety, and depression.	This study provides a snapshot view of incidence and does not demonstrate any trends over time; limited to students on the ASD spectrum.
106	Online suicide risk screening and intervention with college students: A pilot randomized controlled trial	King (2015)	Assess the impact of eBridge, an online resource for college students at risk of suicide, relative to other models of online counseling/E-Therapy.	Randomized Controlled Trial	The study measured moderate student engagement with existing online counseling tools. However, students assigned to *e* Bridge reported significantly higher readiness for help-seeking behavior.	This study is limited to students who seek out online resources for suicide prevention.

ID #	Study	First Author (Year)	Study Aim	Study Design	Study Findings	Study Limitations
145	Time for a Change: College Students' Preference for Technology-Mediated Versus Face-to-Face Help for Emotional Distress	Lungu (2016)	Determine if innovative online and game-based technologies are acceptable and/or preferrable to college students seeking help with mental illness.	Survey design with regression analysis	A majority of students preferred online vs. face-to-face professional counseling. College students demonstrated an openness to the use of technology in receiving emotional help such as playing games and seeking emotional help online.	The study participants were limited to 572 students of predominantly Asian-American descent.
113	Feasibility, Acceptability, and Preliminary Effects of the COPE Online Cognitive-Behavioral Skill-Building Program on Mental Health Outcomes and Academic Performance in Freshmen College Students: A Randomized Controlled Pilot Study	Melnyk (2015)	Determine the efficacy and feasibility of technology diffusion in the treatment of mental illness by implementing the COPE online cognitive-behavioral skill building program.	Randomized Controlled Trial	The study determined that students who had measureable anxiety symptoms prior to study implementation demonstrated a significant decline in symptoms.	This study was limited to 121 college freshmen who were awarded 1-credit for participation.
255	Trends in college students' mental health diagnoses and utilization of services, 2009–2015	Oswalt (2020)	Identify trends in diagnosis of mental health conditions on college campuses between 2009 and 2015. Examine changes in student willingness to seek mental health services in the future.	US nationwide sampling study employing logistical regression analysis	College students are self-reporting mental illnesses at higher rates for anxiety, panic attacks, and depression. Time was not a factor in self-reporting of bipolar disorder, bulimia, and schizophrenia.	This study compares rates of self-reporting that may be biased by societal changes in definitions of the recorded illnesses.
203	Evaluation of an avatar-based training program to promote suicide prevention awareness in a college setting	Rein (2018)	Assess the efficacy of Kognito, an online program used to train college students, faculty and staff to identify and intervene with students at risk of suicide.	Survey design pre and post Kognito training	All study participants reported significant improvement in confidence related to the preparedness, likelihood, and self-efficacy in intervening with troubled students.	This study is limited to results measured immediately following a single training program. The need for ongoing training to maintain confidence was not evaluated.

ID #	Study	First Author (Year)	Study Aim	Study Design	Study Findings	Study Limitations
179	Walk-In Triage Systems in University Counseling Centers	Shaffer (2017)	Determine the impact of walk-in triage systems for CCCs in lieu of traditional registration. Year 1 served as a baseline period, as the CCC maintained a traditional scheduling intake system throughout that year. Year 2 served as an experimental study period, as the CCC transitioned to a walk-in triage system at the beginning of that academic year.	Case control study	Results showed a significant increase in clients' attendance rates and clinicians' caseloads, a significant decrease in no-show rates, and no change in students' symptom severity at intake between Years 1 and 2. Students with emergency needs were treated immediately by the CCC in Year 2.	This study is limited to a single southeastern US college campus.
210	Modifying mental health help-seeking stigma among undergraduates with untreated psychiatric disorders: A pilot randomized trial of a novel cognitive bias modification intervention	Stanley (2018)	Determine the difference between traditional psychoeducation and a novel cognitive bias modification intervention on help-seeking stigma.	Randomized Controlled Trial	A statistically significant reduction was observed for help-seeking self-stigma and perceived public stigma from baseline to two-month follow-up.	Small sample size; presumes that help-seeking is a barrier to mental healthcare; participant dropout was unbalanced across study groups.

APPENDIX B: KEY INFORMANT INTERVIEW QUESTIONS: CCC DIRECTORS

1. How long have you been in your role at your current institution? Before?
2. How did you first get involved in college student mental health?
3. Is your school a member of the Center for Collegiate Mental Health? If so, how do you use the information you receive as a member institution?
4. What is the most challenging aspect of your role as a CCC Director?
5. How would you describe the student culture at your school (competitive, collaborative)?
6. Please describe any trends you see emerging in college student depression, anxiety disorder, and suicide at your school.
7. What are the top 5 factors that students report as contributing to their depression, anxiety, and/or suicidal ideations? Please do not identify individual students by name or illness.
8. Do you believe that pedagogy and/or academic rigor contribute to student mental illness?
9. What other factors, if any, do you believe are driving these trends?
10. What barriers to help seeking behavior do you believe exist at your school?
11. In what ways do FERPA and HIPAA impact your communication with parents, guardians, and family members of at-risk students?
12. What steps are taken to notify parents, guardians, and family members when a student is identified as being at-risk?
13. If you could change anything about your notification policies, what would you do?
14. How has the COVID-19 pandemic impacted the mental health of your students?
15. Is there anything that I haven't asked that you would like to share with me?

APPENDIX C: KEY INFORMANT INTERVIEW QUESTIONS: DEANS OF STUDENTS

1. How long have you been in your role at your current institution? Before?
2. What is the most challenging aspect of your role as a Dean of Students?
3. How would you describe the culture at your school (competitive, collaborative, etc.)?
4. Please describe any trends you see emerging in college student depression, anxiety disorder, and suicide at your school.
5. In what ways have these trends affected your school's students? Please do not identify individual students by name or illness.
6. What factors do you believe are driving these trends?
7. How would you describe the pedagogy at your school (traditional, progressive, etc.)?
8. How would you describe the academic rigor at your school (rigorous, moderate, etc.)?
9. Do you believe that pedagogy and/or academic rigor are contributing to student mental illness at your school? If so, in what ways?
10. What are your policies and procedures related to FERPA and HIPAA?
11. In what ways do FERPA and HIPAA impact your communication with parents, guardians, and family members of at-risk students?
12. What systems are in place at your institution to ensure compliance with ADA?
13. If you could change anything about your policies and procedures related to FERPA, HIPAA, and ADA, what would you do?
14. How has the COVID-19 pandemic impacted the mental health of your students?
15. Is there anything that I haven't asked that you would like to share with me?

APPENDIX D: KEY INFORMANT RECRUITMENT LETTER/INFORMED CONSENT

My name is John Catalano, and I am a doctoral student in the University of North Carolina at Chapel Hill Gillings School of Global Public Health. I am inviting you to participate in a key informant interview that involves the collection of information from leaders in higher education regarding college student mental illness. You have been invited to participate in this research because you hold such a leadership position. I am conducting a research study related to college student depression, anxiety disorder, and suicide. The primary objectives of this research are to identify institutional factors that may be impacting the mental health of college students, as well as to determine possible interventions that can be employed by institutions of higher education to mitigate the incidence of student depression, anxiety disorder, and suicide.

Your participation in this research study is completely voluntary. You can choose not to be in this research study. You can also say yes now and change your mind later. If you agree to take part in this research study, you will be asked questions in a structured interview format that will be conducted via the Zoom meeting platform. You will be given the opportunity to consent to participation prior to the commencement of the interview.

The possible risks to you in taking part in this research, as with all studies involving participant specific data, include a potential loss of confidentiality and/or privacy. No direct benefits will be provided to you for taking part in this research. However, there may be indirect benefits by receiving the results of this research to inform institutional policies.

To protect your identity as a study participant, all available Zoom privacy protocols will be employed to protect your confidentiality. All identifiers related to you and your institution will be removed prior to interview transcription. At no time will you or your institution be identified to anyone, and your identifiable information will be permanently removed. All transcripts will be stored in a password protected file on a password protected computer in my private office. In any publication about this research, your name or other identifying information will not be used.

Please reply to this email to let me know if you are interested in participating in this study. If you have any questions about this research, please contact me by calling 516-351-3071 or emailing me at john.catalano@unc.edu. If you have questions or concerns about your rights as a research subject, you may contact the UNC Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Very truly yours,

John D. Catalano
DrPH Student
University of North Carolina at Chapel Hill
Gillings School of Global Public Health
john.catalano@unc.edu

APPENDIX E: KEY INFORMANT INTERVIEW CODE SYSTEM

Code System
COVID-19 Impact
Increase in College Student Mental Illness
Difficulty with Virtual Learning
Isolation
Decrease in College Student Mental Illness
No Difficulty with Virtual Learning
No Sense of Fear
No Sense of Isolation
Trends
Increase in College Student Mental Illness
Increase in Stress
Increase in Anxiety
Increase in Depression
Increase in Suicide and/or Suicidal Ideation
Decrease in College Student Mental Illness
Decrease in Stress
Decrease in Anxiety
Decrease in Depression
Decrease in Suicide and/or Suicidal Ideation
Underlying Factors
Family Dynamics
Racial Bias
Lack of Exercise
Sleep Hygiene
Loneliness and Isolation
Multiple Mental Illness Issues

Resilience
Institutional Culture/Policies
Stress
High Stress Levels
Moderate Stress Levels
Low Stress Levels
Pedagogy
Pedagogy-Affirmation
Traditional Faculty
Still Traditional But Evolving
Pedagogy-No Affirmation
Progressive Faculty
Perfectionism
Perfectionism-Higher Expectations
Perfectionism-Lower Expectations
Grading
Traditional
Progressive
Academic Rigor
Not Rigorous
Moderate
Rigorous
Campus Culture
Mix of Competitive and Collaborative-Possible Negative Impact
Competitive-Negative Impact
Collaborative-Positive Impact
Legal/Statutory Factors
Professional Standards/Ethics
Professional Standards/Ethics as Communications Barrier

Professional Standards/Ethics Provides for Needed Communication
HIPAA as Communications Barrier
Do Not Request HIPAA Waiver
Actively Request HIPAA Waiver
State Laws
State Law as Communications Barrier
State Law Provides For Needed Communication
ADA
Expansive Interpretation of ADA
Strict Interpretation of ADA
Desired Changes to Notification Policies
Expand
None
Steps Taken to Notify Parents/Family/Guardians
FERPA as Communications Barrier
Do Not Request FERPA Waiver
Actively Request FERPA Waiver
Barriers to Help-Seeking Behavior
Loss of Confidentiality/Removal From School
Fear of Faculty Retribution
Fear of Parents
Professional Aspirations
Stigma
Negative Messaging
Stigma: Lessening
Institutional Resources/Culture
Center for Collegiate Mental Health
Non-Member
Member

Unknown
Use Data
Do Not Use Data

APPENDIX F: UNC IRB APPROVAL AND EXEMPT STATUS NOTIFICATION

To: John Catalano and Susan Helm-Murtagh
Health Policy and Management

From: Office of Human Research Ethics

Date: 2/08/2021
RE: Notice of IRB Exemption
Exemption Category: 2.Survey, interview, public observation,4. Secondary data/specimens
Study #: 20-3008

Study Title: College Student Depression, Anxiety Disorder, and Suicide: Institutional Trends, Associations, and Mitigation Interventions

This submission, Reference ID 315193, has been reviewed by the Office of Human Research Ethics and was determined to be exempt from further review according to the regulatory category cited above under 45 CFR 46.104.

Study Description:

Purpose: To identify institutional factors that may be acting upon a known rises in incidence of college student depression, anxiety disorder, and suicide. To inform potential interventions that may serve to mitigate these rises in incidence.

Participants: Ten (10) participant Directors of College Counseling Centers at a cross-sectional group of colleges. Ten (10) participant Deans of Students at a cross-sectional group of colleges.

Procedures (methods): Key informant interviews with ten participant Directors of College Counseling Centers and ten participant Deans of Students. Additionally, data will be collected from three publicly available data sources, namely: The Center for Collegiate Mental Health, The National Alliance on Mental Illness, and the American Psychological Society. These data will be analyzed to identify trends and determine if associations exist between measured factors.

Submission Regulatory and other findings:

As a reminder, although the UNC-Chapel Hill OHRE/IRB may have approved or made a determination that this study can commence, at this time UNC-Chapel Hill in response to direction from the UNC System Office has reduced campus activity significantly due to the COVID-19 outbreak. All human subject research activities are expected to follow all institutional and UNC Health policies, including those that may limit direct contact of

participants. If you need to modify or alter your study design due to COVID-19 in order to conduct your research activities, please submit a modification and advise in the “Cover page” that this is “COVID-19 Related”.

Investigator’s Responsibilities:

If your study protocol changes in such a way that exempt status would no longer apply, you should contact the above IRB before making the changes. There is no need to inform the IRB about changes in study personnel. However, be aware that you are responsible for ensuring that all members of the research team who interact with subjects or their identifiable data complete the required human subjects training, typically completing the relevant CITI modules.

The IRB will maintain records for this study for 3 years, at which time you will be contacted about the status of the study.

The current data security level determination is Level II. Any changes in the data security level need to be discussed with the relevant IT official. If data security level II and III, consult with your IT official to develop a data security plan. Data security is ultimately the responsibility of the Principal Investigator.

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records), even though the project has determined to be exempt. IRB Informational Message - please do not use email REPLY to this address

APPENDIX G: UNC IRB LEVEL II DATA SECURITY NOTIFICATION

To: Becky Slifkin, Kathy Anderson, Bryan Andregg
Health Policy and Management

CC: John Catalano, Susan Helm-Murtagh

From: UNC IT Security

Date: 2/8/2021
RE: Notice of Study Approval by the IRB with the Data Security Level of Level II

Study #: 20-3008
Study Title: College Student Depression, Anxiety Disorder, and Suicide: Institutional Trends, Associations, and Mitigation Interventions
PI: Catalano, John

The Institutional Review Board has finalized its review of this study. Based on information the Investigator provided, this study meets the criteria for Level II data security requirements.

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Data Security Guide: https://research.unc.edu/files/2017/05/Updated-DSL-Notification.pdf

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Level II Data Security Requirements:

Based on the information the PI provided in the IRB application, this study will be collecting sensitive data that require additional security measures to ensure that they are adequately protected from inadvertent disclosure. Due to the nature of these data, the PI is required to implement the following security measures on any computer(s) that will store or access information collected for this study. The PI should coordinate efforts in this area with the unit's IT data security personnel receiving this email.

Required Measures for Level II Data Security

1. Access to study data must be protected by a username and password that meets the complexity and change management requirements of a UNC ONYEN.
2. Study data that are accessible over a network connection must be accessed from within a secure network (i.e., from on campus or via a VPN connection).
3. Computers storing or accessing study data must have Endpoint Protection (AntiVirus/AntiSpyware) installed and updated regularly where technologically feasible.

4. Patch management and system administration best practices should be followed at all times on systems storing or accessing your data.
5. Users should be granted the lowest necessary level of access to data in accordance with ITS Security's Standards and Practices for Storing or Processing Sensitive Data (when technologically feasible).

**These requirements do not replace or supersede any security plans or procedures required by granting agencies or sponsors. Questions or concerns about compliance with these requirements should be directed to the administering department's IT support staff.

Additional IT Security Resources

- ITS Security
- SOM Information Security
- ITS Research Computing

Due to the nature of this research study, the senior IT official in the administering department is receiving this email about the study and may contact the PI or technical contact(s) to discuss any data security questions on concerns they may have. If the PI has indicated that the research will take place in another unit on campus (i.e., a Center or Institute), that group will also be notified.

This link provides access to the referenced IRB protocol. The IT contacts receiving this email have read-only access to this protocol in IRBIS:
http://apps.research.unc.edu/irb/eform_routing.cfm?masterid=315193

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