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# The Impact of Wellness Training on Resilience, Depression, and Anxiety in College Age Students

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THE IMPACT OF WELLNESS TRAINING ON RESILIENCE, DEPRESSION,  
AND ANXIETY IN COLLEGE AGE STUDENTS

by

Jamie S. Myrtle

Dissertation

Submitted to the Faculty of

Olivet Nazarene University

School of Graduate and Continuing Studies

in Partial Fulfillment of the Requirements for

the Degree of

Doctor of Education

in

Ethical Leadership

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I am surrounded and supported by an amazing family and generous colleagues whose lives have made an indelible impression on my work and my heart. By my parents, brother, and sister, I am unconditionally loved. My sister, Julie, has provided a steady stream of encouragement and a listening ear throughout this journey. Dr. Lisa Wallentine has been my amazing friend and source of assistance and care throughout this process. I am grateful to Dr. Mary Jones and Dr. Houston Thompson for making this journey possible. Dr. Kelly Brown has provided timely and wise guidance throughout the process and Dr. Michael Morris has challenged me to always keep in mind the true source of resilience.

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To my Heavenly Father, whose plans always include redemption, I give my praise, love, and life.

## DEDICATION

To Stan—I am profoundly grateful that God blessed me with such a brave, steadfast, and generous man. Your love for me is demonstrated every day in every kind act you do. I love you forever. To Julie—I carry your heart in my heart.

## ABSTRACT

Data suggests that mental health disorders in college students are increasing. University personnel seek to help students better manage their mental health through access to campus counseling centers. Slow enrollment growth has placed pressure on university budgets making it difficult to fully fund counseling centers. Therefore, university personnel seek cost-effective interventions to meet the need. Increasing resilience has shown promise in reducing the overall impact of depression and anxiety. The purpose of the current study was to explore the impact of wellness training on resilience, depression, and anxiety to determine the effectiveness of the intervention in improving resilience and reducing depression and anxiety. The researcher conducted a quasi-experimental, quantitative study using data gathered from 88 participants during a required freshmen course. Data was collected using a survey instrument that included the CD-RISC and DASS 21 for measuring resilience, depression and anxiety, as well as, open-ended questions. Between the pretest and posttest, a treatment group of students participated in wellness training designed to increase resilience and reduce depression and anxiety. The findings revealed that the training had no statistically significant impact on the three variables. Results also indicated that both the treatment and control group participants showed a statistically significant decrease in resilience and statistically significant increase in depression. The findings will provide a foundation for further research aimed at designing interventions to increase resilience thereby improving student wellbeing.

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## CHAPTER I

### INTRODUCTION

In December 2017, Moody's Investor Services downgraded the financial outlook for higher education from stable to negative (Fain, 2017). The credit ratings agency predicted that expense growth will outpace revenue growth over the coming 12 to 18 months. Expenses were predicted to increase by 4% while revenue, over the same period, was predicted to increase by only 3% (Fain). Declining enrollment, demand for updated university campus facilities, and federal government pressure on college affordability created a perfect storm of pressure on traditional universities' financial position.

Fierce competition for student enrollment is putting downward pressure on tuition growth. At the same time, demand for special services is high as students look for amenities such as newer student centers and fitness facilities, gourmet, organic, and vegan foods in the campus cafeterias, and access to ever-changing technology, both for personal use and as part of the curriculum. University administrators must balance special service demands with academic requirements for more full-time faculty, research funding, and laboratories. University athletic directors request additional funding for higher levels of athletic scholarships, travel funds, and new athletic complexes. On campus, residential student housing needs updates and major renovations as students are no longer willing to live in the sparse, basic, dormitory-style rooms that have housed college students for decades.

To further exacerbate the problem of diminishing resources, funds must be allocated to a variety of campus life and student activities. Student Development offices, also known as Student Affairs or Student Services, are primarily responsible for students' success at university outside the domains of academics and athletics. Student government, residential life, and student-led clubs and social activities have always been the domain of student development professionals. In some universities, student retention efforts are the responsibility of student development. Campus health services are also managed by student development and have traditionally included a campus health clinic with a nurse and perhaps even a physician for physical health-related problems. In many universities, campus health services have been expanded to include campus counseling and mental health support services. The demand for student services is increasing while university financial resources are strained. This situation creates tension as university personnel try to decide budget allocation priorities.

Arguably, the most important university stakeholder group is the students, therefore meeting their needs should be of the utmost priority. Looking at student needs goes beyond academic and career preparation. Effective universities can look to meeting student needs in a more holistic way, caring not only about students' academic needs, but also their physical and emotional needs. Further, many private universities are grounded in faith traditions, therefore placing a high priority on meeting spiritual needs, as well. University personnel must care about meeting student needs from the very beginning. The college experience journey begins in the early days and weeks of the students' first year.

The transition to college presents many challenges for emerging adults. Transitional challenges include learning to make and maintain new relationships, managing finances independently, prioritizing social and academic demands, as well as preparing for future career success (Ramasubramanian, 2017). For some students, moving to university means the loss of emotional and financial support systems. Depending on their college choice, students may experience long periods of separation from family and childhood friends. The demands of selecting a major, choosing a career, finding new friends and keeping up with course work can cause intense stress. The stress can be especially difficult for students with a mental health disorder (Wynaden, Wichmann, & Murray, 2013).

Universities are dealing with increasing numbers of college students who have been diagnosed with a mental health issue before entering college. University staffs have seen large increases in student use of campus counseling centers. In the Center for Collegiate Mental Health's (2017) 2016 Annual Report, a national trend was noted: while the average institutional enrollment grew by only five percent, the average use of counseling centers grew by 30%. Students often require high levels of emotional and mental health support (Bhujade, 2017). Student development professionals are navigating new terrain as students and their parents demand access to university funded mental health professionals and other residential accommodations including emotional support animals.

University personnel, including faculty, student development, and administrators, are tasked with the role of providing a supportive environment in which students can learn and prosper (Beiter et al., 2015; Clifton, Perry, Stubbs, & Roberts, 2004; Fink,

2014; Hartley, 2012; Turner, Holdsworth, & Scott-Young, 2017). Although opinions vary on the level of required support, the educators' goal for the college experience is not that the student merely survive, but that the students thrive. The accomplishment of this, admittedly, lofty goal, in an era of diminishing resources, is a challenge for university faculty and staff. One way to help students thrive during college is to assist students in developing their own personal strength and sense of self-efficacy. In order to assist students in their development, university personnel began researching resilience and ways to increase students' overall resilience levels.

Resilience is the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation and 'bouncing back' in the face of adversity. Across the life course, the experience of resilience will vary. (Windle, Bennett, & Noyes, 2011, p. 2)

Resilience has been described as both a personal characteristic and a resource or skill that can be developed (Turner et al.). If resilience is a skill that can be developed, then university faculty can develop curriculum to target that development.

Many students have yet to learn that failure represents opportunity for growth. Therefore, at times, seemingly insignificant setbacks can cause disproportionate distress. Students are, frequently, unable to successfully reengage after a bad grade, course failure or even disagreement with a friend. Resilience plays a key role as it is through resilience that students measure their strength, not only academically but also in relationships with peers and teachers where demanding situations need to be faced, which may lead to moments of confrontation (Gonçalves, Cabral, Ferreira, Martins, & Duarte, 2017).

Students must learn to advocate for themselves, handle confrontation, and learn to fail without falling apart. Resilience allows students to better understand their potential and capacity to become stronger, learn, and respond effectively (Gonçalves et al.).

In addition to helping students manage stress and rebound from setbacks, high levels of resilience can positively impact mental health. Low levels of resilience have been associated with depression and are predictive of anxiety symptoms in college students (Ahmed & Julius, 2015). By introducing students to resilience building skills through training and curriculum, university faculty can enable students to better manage depression, and anxiety symptoms.

#### Statement of the Problem

The overall national 6-year graduation rate for first-time, full-time undergraduate students who began seeking a bachelor's degree at a 4-year granting institution in fall 2009 was 59.6% (U.S. Department of Education, National Center for Education Statistics, 2017). One explanation for such a high drop-out rate is the inability for some students to cope with the transition to postsecondary learning and the related stressors (DeRosier, Frank, Schwartz, & Leary, 2013; Turner et al., 2017). Depressive and anxiety symptoms rank high among health problems in university settings (Klibert et al., 2014). [College students] who are experiencing psychological problems, such as depression, may face problems in managing their academic performance (Ahmed & Julius, 2015). Low levels of resilience have been associated with depression, neuroticism, and low self-esteem. Further, low levels of resilience are predictive of anxiety/stress symptoms in college students (Klibert et al.). Because of the impact resilience can have on mental



health and academic self-efficacy, increasing college student resilience levels should increase the likelihood of student goal achievement.

The purpose of the current study was to explore the impact of wellness training on resilience, depression, and anxiety in college age students in order to determine the effectiveness of the intervention in improving resilience and reducing the level of depression and anxiety thereby increasing student wellbeing.

### Background

#### First-year college students

“College adjustment has been of interest to researchers for decades, with articles on the topic first appearing in the 1940s” (O’Donnell et al., 2018, p. 116). In fact, “college adjustment research has shifted over time, from a focus on college adjustment as a predictor variable . . . to increased emphasis on college adjustment as a representative of a general level of ability or functioning that has been achieved” (O’Donnell et al., p. 116). The first year of college is not only critical to the social experience but also academic success (Veenstra, 2009). Transition to college is a significant milestone and a new beginning full of excitement, challenges, and adjustment in both academic and social life (Mathura & Sharma, 2014). The [first year experience], whether positive or negative, can influence students’ decisions regarding returning to the same university, transferring to a different institution, or dropping out of university altogether (Turner, 2016).

The transition to college can, also, be a stressful time in students’ lives as they must adapt to new and increasingly demanding academic, social, and financial pressures while adjusting to life in an unfamiliar environment (DeRosier et al., 2013). Regardless of the type of university in which a first-year student enrolls, be it a large public

university or a small private college, students wonder if they will be able to maintain strong grade point averages from high school. “The specter of Ds and Fs drifts around because students have heard college is really different – and much harder – than high school” (Shanley & Johnston, 2008, p. 3). The extent to which students can cope with all the different stressors, especially during their first year, has important ramifications for their social and emotional adjustment, as well as for the likelihood of their academic success and persistence in college (Turner et al., 2017).

## Resilience

Parkinson (2008) identified emotional wellbeing, life satisfaction, optimism and hope, self-esteem, resilience and coping, spirituality, social functioning, and emotional intelligence as eight aspects of positive mental health. As an element of positive mental health and a personal asset or characteristic, research in the area of resilience has been increasing in recent years. Throughout the literature, the concept of resilience is defined in a variety of ways. Pooley and Cohen (2010) defined resilience as “the potential to exhibit resourcefulness by using available internal and external recourses in response to different contextual and developmental challenges” (p. 30). Huang and Lin (2013) defined resilience as the positive capacity of people to cope with stress and adversity. According to Gonçalves, et al. (2017), resilience is the capacity to overcome life adversities in a positive and constructive manner. Eells (2017) stated that definitions of resilience include “the producing of good outcomes despite being at high-risk around other variables, displaying enhanced competence under stress” (p. 78). Eells continued the definition with “taking challenging experiences and using these experiences as opportunities for growth that make future hardships more manageable” (p. 78). While

researchers' definitions vary, "most definitions of resilience feature adaptive, resourceful, and innovative enabling responses to adversity, threat, or challenge as a core element" (Cassidy, 2015, p. 2).

Resilience can be conceptualized as a process as well as a personal characteristic that can be developed over time and in response to the exposure to and subsequent effects of stressors (Ahmed & Julius, 2015). "Resilience is considered an asset or strength, a desirable and advantageous quality, characteristic, or process that is likely to impact positively on aspects of an individual's performance, achievement, health, and wellbeing" (Cassidy, 2015, p. 2). According to Alvarado, Spataru, and Woodbury (2017), resilience is related to positive outcomes in social support, high expectations, and positive development. Resilience also increases the likelihood of success despite adversity and is important in predicting academic persistence and mental health (Alvarado et al.). Resilient individuals are better prepared to deal with stressors in a constantly changing environment (Avey, Luthans, & Jensen, 2009). Resilient students are also open to new experiences, flexible to changing demands, and more emotionally stable when facing adversity (Alvarado et al.). Higher levels of resilience can help students better deal with the day-to-day issues of course work, roommates, and other typical college activities, as well as major life changes and challenges such as romantic break-ups, parental separation, and financial difficulties.

Research supports resilience as one possible solution in helping at-risk students, as well as other students (Ahmed & Julius, 2015). According to a study by DeRosier et al. (2013), students with greater resilience appeared to be better able to cope with the stressors associated with the transition to college. "Students with greater resilience were

found to have higher self-esteem and to engage in more behaviors that promoted mental and emotional well-being” (DeRosier et al., p. 542).

Cassidy (2015) identified academic resilience as an amplified possibility of academic success despite environmental hardships. Academic resilience deserves special attention because it is directly related to positive student outcomes. Resilient students have higher levels of motivation and performance in the presence of adverse events (Jowkar, Kojuri, Kohoulat, & Hayat, 2014). Academic resilience leads to academic success.

### Depression and Anxiety

Depressive disorders share common features including “the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual’s capacity to function” (American Psychiatric Association, 2013, p. 155). According to the American Psychiatric Association, anxiety disorders share features of excessive fear and anxiety, “*Fear* is the emotional response to real or perceived imminent threat, whereas *anxiety* is anticipation of future threat” (p. 189). While fear and anxiety have commonality, fear is “more often associated with surges of autonomic arousal necessary for fight or flight, thoughts of immediate danger, and escape behaviors . . .” (American Psychiatric Association, p. 189). Anxiety, on the other hand, is “more often associated with muscle tension and vigilance in preparation for future danger and cautious or avoidant behaviors” (American Psychiatric Association, p. 189). Anxiety disorders differ from normal fear or anxiety by being excessive or persistent. Anxiety is often stress-induced. Individuals with anxiety often overestimate the danger in situations that they fear or avoid (American Psychiatric Association). The

two mental health disorders are often studied together given the high comorbidity of depression and anxiety (Seligman, Schulman, & Tryon, 2007).

University students have been identified as being an at-risk population because the typical age when most young adults enter college coincides with the age of onset of some psychological disorders, such as anxiety and depression (Wynaden et al., 2013). Mental disorders among college students appear to be increasing in number and severity (Hunt & Eisenberg, 2010). Approximately 26.2% of college students reported anxiety, 17.3% depression, and 33.7% stress as affecting their individual academic performance in the last twelve months (American College Health Association, 2017). In its 2016 Annual Report, the Center for Collegiate Mental Health describes anxiety and depression as the number one and number two self-reported concerns by clients seeking help at university counseling centers (Center for Collegiate Mental Health, 2017). According to the World Health Organization (2011), predictions indicate that by 2030 depression will be the leading cause of disease burden globally.

Historically, many universities' policies for students with mental illness was to recommend mandatory withdrawal (Hoffmann & Mastrianni, 1992). However, the Americans with Disabilities Act of 1990 ensured that individuals with mental illness have access to the same opportunities as individuals without disabilities (Kiuvara & Huefner, 2008). Because of the increasing number of students with mental health issues, colleges and universities are having trouble addressing the demand for mental health services (Smith et al., 2007). According to Mowbray et al. (2006), the increasing number of students with psychological problems has resulted in many campus providers disclaiming responsibility for those students' problems due to lack of resources.

“Poor mental health can impact college campuses in a variety of ways, including student health outcomes, academic performance, and student retention and graduation rates” (Wyatt & Oswalt, 2013, p. 97). “Some of the salient problems specific to college students are time pressure, fear of failure, struggle to establish identity, pressure of academic excellence and tough competition” (Bhujade, 2017, p. 748). Beyond the general difficulties that are faced by most college students, there are further risks faced by students with mental health disorders. Additional risks include “(a) temporary cognitive impairments, (b) stigma of mental illness, (c) lower academic self-confidence, and (d) conflicted peer relationships” (Hartley, 2013, p. 241). Hysenbegasi, Hass, and Rowland (2005) found a .49-point drop in grade point average associated with a diagnosis of depression.

Research has found that individuals with mental health issues view participation in 2- and 4-year colleges as an opportunity for personal growth and fulfillment (Hartley, 2013). In fact, according to Davidson et al. (2001), simply the opportunity for further education can assist in recovery. According to Hartley, resilience research may be able to assist counselors helping students with mental health issues to cope more effectively with the complexities of college and improve college retention.

### Interventions

Resilience is crucial for success in college and life (Yeager & Dweck, 2012). “There is a growing recognition by educators that resilience development during university is an important skill that will increase the likelihood of positive academic and employment outcomes” (Turner et al., 2017, p. 387). Resilience has been considered a dispositional trait or personal quality (Sagone & Caroli, 2014); however, it has also been

conceived as a process that changes over time (Fletcher & Sarkar, 2013). Shatkin et al. (2016) posited emerging adulthood as offering a unique opportunity to build resilience. This idea that resilience can be taught led researchers to believe that resilience includes skills that can be developed. Therefore, faculty can design curriculum that includes targeted initiatives for building assets and resources critical to resilience (Turner et al.).

According to First, First, and Houston (2017), interventions that foster resilience in college students are one approach to addressing the increased stress and mental health needs on university campuses. Shatkin et al. (2016) tested the impact of a skills building component of a two-semester risk and resilience course in reducing stress, improving coping skills, and reducing negative thinking. Relative to control group, the students in the course reported improvements in coping with stress and in their mental health. Steinhardt and Dolbier (2008) examined the effectiveness of a 4-week resilience intervention to enhance resilience in college students. The results of this study concluded that the experimental group had higher resilience scores after the intervention as compared to the control group. In a systematic review and analysis of resiliency training programs, Leppin et al. (2014) found that, “in general, resiliency training showed benefit in a number of mental health domains across diverse populations at  $\leq 3$  months of follow-up” (p. 11).

#### Connor-Davidson Resilience Scale

The Connor-Davidson Resilience Scale (CD-RISC) is a 25 question, self-rated tool used to provide an overall measure of individual resilience. The goals established by the researchers included the development of a valid and reliable measure to quantify resilience and the ability to establish reference values for resilience in the general

population (Connor & Davidson, 2003). According to Gonzalez, Moore, Newton, and Galli (2016), the CD-RISC was developed using constructs shown previously to be related to resilience. Items from the CD-RISC were tested in general and clinical populations (Gonzalez et al.). Researchers examining the efficacy of resilience training have utilized the CD-RISC supporting the validity of the instrument in an applied context (Gonzales et al.). According to Ahern, Kiehl, Sole, and Byers (2006), the CD-RISC-25 is psychometrically sound.

#### The Depression Anxiety Stress Scale

The Depression Anxiety Stress Scale (DASS) is a 42-item questionnaire designed to measure the magnitude of three negative emotional states: depression, anxiety, and stress (Parkitny & McAuley, 2010). “The DASS-Depression focuses on reports of low mood, motivation, and self-esteem, DASS-anxiety on physiological arousal, perceived panic, and fear, and DASS-stress on tension and irritability” (Parkitny & McAuley, p. 204). The DASS was developed to provide self-report anxiety and depression scale that would cover the full range of core symptoms of depression and anxiety, meet high psychometric standards and provide maximum discrimination between the two emotions (Lovibond & Lovibond, 1995, p. 336). During the testing of the depression and anxiety scales, “a new factor emerged from analysis of the non-discriminating anxiety and depression items” (Lovibond & Lovibond, p. 336). The items that arose included agitation, irritability, and nervous tension. The new items were tested and led to the development of the stress scale (Lovibond & Lovibond). The resulting scales, DASS, were first described by Lovibond in 1983. “The DASS has excellent clinimetric properties and few limitations...” (Parkitny & McAuley, p. 204).



## Research Questions

Given the impact that increasing overall resilience levels can have on depression, anxiety, and student outcomes, identifying methods of increasing resilience seems a worthy pursuit. The purpose of the current study was to test the impact of wellness training on resilience, depression, and anxiety. The following research questions guided the current study:

Research Question 1. What is the impact of wellness training on the overall resilience level in college age students?

Research Question 2. What is the impact of wellness training on depression levels in college age students?

Research Question 3. What is the impact of wellness training on anxiety levels in college age students?

## Description of Terms

The following definitions clearly explain key terms used in the current study:

*Anxiety.* “Anxiety is a future-oriented emotional state characterized by a sense of apprehension, worry, and lack of control of one’s own affective response” (Otto, Calkins, & Hearon, 2010, para. 1). Anxiety is concerned with future threat and may be accompanied by a mix of shame, guilt, excitement, anger, or sadness. While anxiety may be a source of motivation, anxiety may also interfere with performance. (Otto et al.)

*Depression.* Depressive disorders share common features including “the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual’s capacity to function” (American Psychiatric Association, 2013, p. 155).

*Emerging adulthood.* Coined by Arnett (2000), “emerging adulthood is purposed as a new conception of development for the period from the late teens through the twenties, with a focus on ages 18 – 25” (p. 469).

*Persistence.* The persistence rate is the percentage of students who return to college at any institution for their second year (National Student Clearinghouse, National Student Clearinghouse Research Center, 2015).

*Resilience.* The American Psychological Association (n.d.) states that “Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress – such as family and relationship problems, serious health problems or workplace and financial stressors” (para. 1).

*Retention.* The retention rate is the percentage of students who return to the same institution for their second year (National Student Clearinghouse, National Student Clearinghouse Research Center, 2015).

### Significance of the Study

Colleges and universities, especially small, private institutions, face mounting economic pressures due to declining enrollment, student and parent concerns over the rising cost of college, and wide spread questions about the value of a college degree (Rudgers & Peterson, 2017). Data from the U.S. Department of Education, National Center for Education Statistics (2017) showed that approximately 40% of students that begin seeking a four-year degree will drop out before completing their degree. By increasing student retention rates, university personnel can significantly impact the financial results of their university. Therefore, administrators, faculty, and student

development professionals pursue a variety of processes and programs to increase student retention.

While, undoubtedly, increasing student persistence has a positive financial impact, a more student-centric, altruistic reason may motivate faculty and student development professionals' efforts in their pursuits. According to Turner et al. (2017), educators are responsible for providing a supportive environment in which students can learn and prosper. In the context of creating an environment wherein students can prosper, university faculty and student development staff can focus on facilitating student growth and success.

“The college experience encourages young people to enhance knowledge, broaden their perspective . . . achieve personal growth and establish personal identity” (Mathura & Sharma, 2014, p. 534). While college experiences can be positive, for many students, the first year of college is a “pretty dismal experience” (Mills & Mehaffy, 2016, p. 57). According to DeRosier et al. (2013), stress is prevalent among first-year students, and students frequently engage in maladaptive behaviors in response to stress. First year college students also tend to experience greater anxiety and psychological distress relative to upperclassmen (DeRosier et al.). Wynaden et al. (2013) identified university students as an at-risk population, in general, as the typical age when young adults enter college coincides with the age of onset of some psychological disorders, including depression and anxiety. Mental health problems are associated with poor academic performance, increased rates of attrition and fewer days devoted to study (Stamp et al., 2014).

Given the prevalence of mental health problems reported among college students, there are calls for universities to develop comprehensive and cost-effective mental health interventions (Leppin et al., 2014). According to Ahmed & Julius (2015), high levels of resilience can help in lowering mental health problems. Therefore, by identifying characteristics associated with resilience and then fostering development of those characteristics, university personnel can help promote resilience (DeRosier et al., 2013).

Emerging from the positive psychology movement (Seligman & Csikszentmihalyi, 2000), resilience is an asset-based approach that can support college students' mental health needs and promote positive academic outcomes (Hartley, 2012). Resilience, and the impact increased resilience can have on college students, has broad appeal. Faculty at both public and private, small and large universities are exploring ways to help increase student resilience. The work includes research, instrument development, as well as the development of training and coursework.

Courses teaching tenets of resilience, often labeled happiness courses, are offered at both Harvard and Yale (Achor, 2010; Shimer, 2018). Sood (2015) has developed and tested the Stress Management and Resilience Training (SMART) program. Faculty at the University of Pennsylvania have done extensive work in the area of resilience and developed The Penn Resilience Program for College Students ("Penn resilience program," 2018). Schreiner (2010) at Azusa Pacific University developed the Thrive Quotient, which is an instrument used to measure aspects of the college experience that are most predictive of academic success, institution fit, college satisfaction, and, finally, graduation.

Studies support the idea that resilience can be developed through targeted interventions (First et al., 2017, Ramasubramanian, 2017; Shatkin et al., 2016;). By designing and delivering training, designed to increase resilience, university faculty and student development professionals can increase positive outcomes for both students and the university. By delivering the intervention as part of the freshmen seminar curriculum, the impact of increased resilience could benefit students throughout their college career.

#### Process to Accomplish

The researcher conducted a quasi-experimental, quantitative study to test the impact of resilience training on the overall resilience level, depression, and anxiety of college students. The researcher received approval from a small, private Midwestern university to conduct the study. The study was conducted in the 2018 fall semester. The sample included 88 first-year college students enrolled in a freshmen seminar course.

All first-year students at the small, private Midwestern university were required to complete the FRST 1101 Freshmen Seminar course. For purposes of the study, six sections, from a total of 13 sections of the fall 2018 course, were segregated for the study sample. The course met twice weekly for 45 minutes each session. The course runs for the first eight weeks of the semester. The study's participants included first-year college students who completed the pretest and posttest, with a subset of students participating in wellness training as part of the freshmen seminar coursework.

The pretest was administered in all six study sections during the initial FRST 1101 class session to all students in attendance on that day. Over the next eight weeks, the treatment groups, three of the six sections, participated in one 45-minute per week wellness training session, totaling eight training sessions. The three control group

sections continued the regular topical sessions for coursework. The posttest was administered to all six sections during the last class session of FRST 1101 to all students in attendance on that day.

## Research Design

The researcher created a questionnaire using two previously validated survey instruments to gather quantitative data from the participants. The researcher also included five open-ended questions on the posttest questionnaire. Open-ended questions allowed the researcher to gather qualitative data to supplement information provided by the quantitative data. Specifically, the researcher inquired about opinions and reflections concerning overall impressions of FRST 1101 and, where applicable, the wellness training.

## Instrument

Part A of the survey instrument included the Connor-Davidson Resilience Scale (CD-RISC), which provided the information necessary to answer research question one. “The CD-RISC contains 25 items, all of which carry a five-point range of responses, as follows: not true at all (0), rarely true (1), sometimes true (2), often true (3), and true nearly all of the time (4)” (Connor & Davidson, 2003, p. 78). The scale asked subjects to answer questions based on how they felt over the past month. The total scores range from 0 – 100. Higher scores reflect higher levels of resilience (Connor & Davidson).

Permission to use the CD-RISC is included as Appendix A.

Part B of the survey included the Depression Anxiety and Stress Scale (DASS). The results of this portion of the survey provided the information necessary to answer research questions two and three. The DASS is a 21-item questionnaire designed to

measure the magnitude of three negative emotional states: depression, anxiety, and stress (Parkitny & McAuley, 2010). On this instrument, subjects indicate, on a four-point scale, the extent each of the statements applied over the past week. Higher scores on each subscale indicate increasing severity of depression, anxiety, or stress (Parkitny & McAuley). The DASS is in the public domain and is available for download from the DASS website (Psychology Foundation of Australia, 2014).

In total, the pretest survey instrument contained 51 questions: Part A – 25 questions for resilience, Part B – 21 questions for depression, anxiety, and stress, and Part C – five demographic questions. The pretest is included in Appendix B. The posttest survey instrument for the control group included 54 questions: Part A – 25 questions for resilience, Part B – 21 questions for depression, anxiety, and stress, Part C – three open-ended questions, and Part D – five demographic questions. The posttest for the control group is included as Appendix C. Finally, the posttest survey instrument for the treatment group included 57 questions: Part A – 25 questions for resilience, Part B – 21 questions for depression, anxiety, and stress, Part C – six open-ended questions, and Part D – five demographic questions. The posttest for the treatment group is included as Appendix D.

Process

A professor in each study section of FRST 1101 distributed the paper-based survey to each student in attendance on the assigned class period at a small, private Midwestern university during the fall 2018 semester. The researcher attached a script, which included detailed instructions, to the survey instrument to better ensure consistent distribution and administration of the surveys. The pretest and posttest survey instructions are included as Appendix E and Appendix F, respectively. The instructions were read

aloud, by the professor, to all participants prior to beginning the survey. Students were allowed 20 minutes during the class session to take the survey. The process was identical for both pretest and posttest.

### Analysis

The researcher conducted both descriptive and inferential statistical analysis with the survey data using SPSS statistical software. The data collected for research question one included overall resilience levels as computed from the results of the CD-RISC. The data collected for research question two included the subscale score for depression computed from the results of the DASS. The data collected for research question three included the subscale score for anxiety computed from the results of the DASS. Data were collected at both the pretest and posttest for all six study groups.

In order to test the differences in the means of the outcome measures, at both the pretest and posttest, the researcher performed an analysis of variance (ANOVA) (Kremelberg, 2011). The ANOVA separates the variance into differences within groups, as well as between groups (Salkind, 2014). Although each research question included a different outcome, the researcher conducted the same analysis for each question.

### Summary

The current study contributed to the literature on resilience in college age students by focusing on methods and processes to increase resilience levels as a personal resource. Studies indicate that resilience is both a personal trait and a characteristic that can be developed through targeted interventions. Research shows that high levels of resilience are associated with lower levels of anxiety and depression. With mental health concerns continuing to grow on college campuses, educators can serve both their institutions and



their students by developing curriculum and programs to help increase student resilience levels. Since being identified as one of eight aspects of positive mental health, research in the area of resilience has continued to grow. The next chapter will review existing literature on resilience, depression, anxiety and the related impacts on the emerging adult population. The chapter will also examine research related to the role of academic program and curricular interventions in increasing resilience and positive mental health in college students.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

Higher education, as an industry, is in a state of upheaval. Projected expense growth is outpacing revenue growth (Fain, 2017). In attempts to grow revenue, institutions have increased tuition rates. As a result of the rising cost of tuition, overall college and university enrollment in the United States declined almost 8% between 2011 and 2016 (Hershan & Lauderdale, 2018). The unemployment rate in the United States has dropped from 9.8% in January 2010 to 4.1% in January 2018 (U.S. Department of Labor, Bureau of Labor Statistics, 2018). Unemployment levels are a determinant of undergraduate higher education enrollment (Wright, Ramdin, & Vásquez-Colina, 2013). In periods of high unemployment, logically, people may enroll in college to upgrade existing skills or to acquire new skills to improve their opportunities for employment (Schmidt, 2018). Conversely, when the unemployment rate falls, the impetus for college enrollment decreases. According to Johnson (2015), for every 1% change in the unemployment rate, community colleges can expect a 2.5% change in full-time enrollment. A positive relationship between unemployment rates and enrollment was found at four-year, public universities, as well (Barbu, 2015).

“The transition to college brings a host of developmental challenges and stressors. . . many students experience a mix of excitement and dread as they prepare to enter the

unknown” (Srivastava, Tamir, McGonigal, John, & Gross, 2009, p. 883). In a study conducted of 271 first-year students at two small northeastern universities, almost one quarter of the sample had clinically high levels of social anxiety (Nordstrom, Swenson Goguen, & Hiester, 2014). University students are, as a whole, an at-risk population for mental illness, including depression and anxiety. Particularly for first year students, university educators need to understand ways to improve the transition as a smooth transition from high school increases the chances of success in terms of achievement and persistence (van Rooij, Jansen, & van de Grift, 2017).

Resilience has emerged as a process and characteristic that can be developed to help manage stress and mental health problems. Identified as one of eight aspects of positive mental health, resilience can be developed through targeted intervention (Loprinzi, Prasad, Schroeder, & Sood, 2011; Parkinson, 2008; Shatkin et al., 2016; Sood, Sharma, Schroeder, & Gorman, 2014; Turner et al., 2017). Teaching resilience as part of a required, first-year experience course, can help college students better engage in all aspects of their university experience (Conley, Travers, & Bryant, 2013; DeRosier et al., 2013; Eisenberg, Goldrick-Rab, Ketchen Lipson, & Broton, 2016).

### Trends in Higher Education

The economic outlook for higher education, as an industry, is bleak (Harris, 2018). Since the end of World War II, a college degree has been a rite of passage and, for many, the ticket to the middle class. The value of a college degree was indisputable and the “resources to support academic programs, research, and student financial aid appeared unwavering” (Hershan & Lauderdale, 2018, p. 1). The Great Recession of 2008 brought changes for many industries, including higher education. Tax reform, limited

projected net revenue growth, and increasing expenses led Moody's Investor Service to downgrade higher education's financial outlook from stable to negative in December 2017 (American Association of State Colleges and Universities, 2018).

Both federal and state governments provide funding to help underwrite the cost of higher education, but "federal and state funds have different missions" (Woodhouse, 2015, para. 2). State funds are given to public institutions to help fund primarily the general operations of the university (The Pew Charitable Trusts, 2015). Federal funds go directly to students, attending public, private, or for-profits colleges and is awarded through student financial aid and research grants (Woodhouse). Federal student financial aid comes in the forms of both loans, which must be repaid, and grants, which do not need to be repaid (U.S. Department of Education Federal Student Aid, n.d.). In 2010, federal government spending surpassed state spending primarily because of a surge in Pell grants (Woodhouse). The Pell Grant program is a need-based financial aid program (The Pew Charitable Trusts). The federal government provided approximately \$80 billion, excluding loans, to support students pursuing higher education in 2014. "Of that, about \$45 billion came via spending programs and roughly \$35 billion was in the form of income tax provisions" (Oliff, Robyn, & Thiess, 2017, para. 3). Pell Grants, specifically, accounted for about \$30 billion of the \$45 billion in spending (Oliff et al., para. 5). Pell Grant funding grew dramatically around the time of the Great Recession due to policy changes and an economic climate that resulted in an increase in students qualified for the grants (Oliff et al.).

The Higher Education Act of 1965 (HEA) is the federal law originally intended to increase accessibility to higher education. Approximately 75% of all federal higher

education student aid flows through HEA programs (Salomon, 2018, para. 1). The HEA has been reauthorized eight subsequent times, most recently in 2008, and is under review by Congress for proposed 2018 reauthorization (“Renewing the Higher Education Act”, n.d). The HEA authorizes various Department of Education aid programs, including grant programs, such as the Pell Grant program. Both the Republican and Democratic parties have introduced bills to comprehensively reauthorize the HEA. The Republican bill, called the PROSPER Act, or Promoting Real Opportunity, Success, and Prosperity through Education Reform, was introduced to Congress in December 2017 (Chatlani, 2018). Democrats introduced the Aim Higher Act in July 2018 (Branson, 2018). Both pieces of legislation deal with student financial aid, accreditation and accountability, and competency-based education. The solutions proposed are remarkably different (Chatlani).

Recent days have seen an economic impact not only at the federal level, but at the state level as well. Although overall state spending on higher education increased nominally between fiscal years 2017 and 2018 (Kelderman, 2018), state funding of public universities in the United States declined by 16% between 2008 and 2017 (Hershan & Lauderdale, 2018). At the state level, tight budgets force universities to compete with other funding priorities such as K-12 education, transportation, and corrections (American Association of State Colleges and Universities, 2018). Because of reductions in both federal and state funding, universities have shifted the cost burden to students and their families.

Some states, in response to public concerns, have proposed free, state level college programs. As an example, in August 2018, the University of Illinois announced a free tuition and fees program for qualified Illinoisans whose family income is at or below

the state median level (Rhodes, 2018). Beginning in Tennessee in 2015, several states have worked to offer free tuition. Many of the programs are last dollar programs, meaning that students must apply for and use federal aid and scholarships with the free tuition program covering the remaining gap (Mercer, 2018). Due to lower than anticipated state revenues, however, several tuition-free programs have had to be revised or are not yet fully enacted (Mercer). Even in states that have free tuition programs, enrollment is often limited to select programs, such as associate degrees or certificate programs, for high demand job fields (American Association of State Colleges and Universities, 2018). Family income is also considered in most of the free tuition programs therefore limiting availability (Mercer).

To compensate for reduced government funding, as well as rapidly increasing institutional costs, both public, two- and four-year, as well as private, non-profit universities have relied, at least partially, on tuition increases to fill the gaps (Ma, Baum, Pender, & Welch, 2017). Tuition rates at public, four-year institutions have increased by 35.8% from 2008 to 2017 (College Board, n.d.). Public institutions, of course, are heavily impacted by reductions in state government funding. For private, nonprofit, four-year institutions, the increase over the same time period is 25.6% (College Board). In order to offset the total cost of college, many private colleges and universities discount student tuition. For the time period between 2008 and 2017, average institutional discount rates increased from 36.9% to 44.8% (Valbrun, 2018). Due to escalating discount rates, inflation adjusted, net-tuition revenue at private institutions has been flat or declining (Valbrun).

One impact of increased tuition can be declining enrollment. Between the fall of 2012 and the fall of 2017, total higher education enrollment decreased by 6.8% (National Student Clearinghouse, National Student Clearinghouse Research Center, 2014; National Student Clearinghouse, National Student Clearinghouse Research Center, 2017). Four-year for-profit institutions and two-year public institutions felt the biggest impacts at decreases of 38.4% and 14.1%, respectively. Both four-year public and four-year private institutions saw slight enrollment increases for 1.9% and 1.6% respectively. The most recent trends, though, indicate decreases across all four segments (National Student Clearinghouse, National Student Clearinghouse Research Center, 2017). Many universities, particularly residential institutions, operate with a high level of fixed costs, therefore a seemingly small enrollment decline can have a serious impact on profitability (Shaw, 2018).

Beyond increased tuition rates, enrollment may also decline due to the strengthening of the economy. As the country pulled out of the Great Recession, students may choose to enter the workforce rather than attending university. Businesses are returning to providing in-house training which reduces the need for college coursework. Further, a cultural shift towards technical education and credentialing may also impact enrollment (Shaw, 2018).

“Students’ continued expectations of increased college affordability and lower tuition and debt at the same time they demand more and better facilities, service, and general college experience have left many institutions at a difficult operational crossroads” (Matsumori, Kuffler-Macdonald, & Brandazza, 2018). According to Selingo (2013), universities have been competing in an *arms race* in terms of amenities designed

to attract the millennial and post-millennial student. The amenities have little to do with classroom education. The amenities include residence halls with private suites and bathrooms, new recreation centers with theaters, food courts, and computer labs. Many universities also have athletic facilities that mirror those of professional sports franchises (Selingo). “The consumer’s measurement of an education’s value seems to be based on output while the actual cost of education to the institution relates to inputs” (Matsumori et al., para. 12) In other words, the students and their families view the cost of education as the tuition cost per hour, and more specifically, the instructional costs.

However, the tuition and fees must cover much more than the cost of the faculty and instructional facilities. Universities’ operational costs are growing due to increasing cost of technology, athletic facilities, and incoming student demands for new and improved buildings and amenities. Colleges must pay for the amenities and personalized services students demand, and colleges provide in order to attract students (Selingo, 2013). The cost to students of all the personalized services goes beyond dollars added to tuition. “The luxury accommodations not only add to the sense of entitlement, but offer few opportunities for students to learn how to get along with different people and manage conflicts” (Selingo, p. 34). According to Selingo, the professional advisors hired to help students are cheating them out of the opportunity to solve their own problems.

The confluence of macroeconomic factors in higher education have an critical impact on college students. Expense growth is projected to outpace revenue growth (Fain, 2017). The pressure on universities to contain tuition rates, combined with demands for increasingly specialized coursework, upgraded technology, and updated accommodations, have led to financial strain for many universities (Matsumori et al.,



2018). With budgets stretched to and beyond capacity, universities cannot easily fund needed student services, specifically, expanded campus mental health services (Reilly, 2018; Simon, 2017). At a time when depression and anxiety are increasing in the college student population, more campus mental health services are needed (Center for Collegiate Mental Health, 2016; Substance Abuse and Mental Health Services Administration, 2017; Twenge, Martin, & Campbell, 2018). The economic realities facing higher education make meeting these needs exceedingly difficult.

### Generation Z

The characteristics of the average, traditional-age college student are changing. The graduating class of 2017 represented the first graduation of Generation Z, or Gen Z (Lyons, LaVelle, & Smith, 2017). According to Villa and Dorsey (2017) from the Center for Generational Kinetics, Gen Z is comprised of people born after 1995. Gen Z now represents the largest generational cohort in the United States at 26% of the total population (Sterling, 2017). Although many of the traits that will define Gen Z have yet to emerge, much is known about the environment in which they are growing up (Wiedmer, 2015). Research conducted regarding Gen Z noted three distinct forces that have impacted Gen Z: technology, global economic turndown, and terrorism (Heilpern, 2016). The previous generation, most often called Millennials, had September 11, 2001 as its defining moment. For Gen Z, 9/11 is part of history only, something to be watched on YouTube or learned in an American History course (Villa & Dorsey).

Gen Z is distinct from the previous generations in many other ways. Generation Z also grew up having witnessed “. . . a crumbling economy, widespread public shootings, and ongoing violence and terrorism abroad and in the United States. The Internet and

social media offer intimate details of these types of events, instilling fear and worry in many students” (Seemiller & Grace, 2017, p. 22). Generation Z is

. . . coming of age in the shadow of economic decline, job insecurity, increasing inequality and a lack of financial optimism. When asked whether they think their lives are likely to be more of a struggle than those of their parents’, their answer is an unambiguous yes . . . (Hertz, 2016, para 5)

As a generation, Gen Z members have been raised in an era of war. Beginning with the terrorist attacks in the United States on September 11, 2001, today’s youth have lived with near constant war in Afghanistan, Iraq, and the Middle East (Turner, 2015). Despite the negative environment, Gen Z students believe they have the power to change the world (Seemiller & Grace, 2017). Social issues are very important to members of Gen Z (Loveland, 2017). The social issues prominent in their lifetime, including racial equality, women’s and LGBTQ rights, and immigration policy, are at the forefront of their burgeoning activism. Gen Z is focused on the well-being of everyone, not solely on themselves (Seemiller & Grace). As opposed to the *me-centric* spirit exhibited by the Millennials, Gen Z is considered *we-centric* (Mohr & Mohr, 2017).

The defining characteristic, so far, is that Gen Z is the first tribe of digital natives (Kingston, 2014). Gen Z grew up in an age where technology and connectivity are pervasive, therefore, they are confident in their ability to master emerging technologies (Lyons et al., 2017). New college graduates welcome the opportunity to work with artificial intelligence, robotics, and other advanced technologies, as they believe these advances will improve their work experience (Lyons et al.). Through use of the internet, social media, and smart phone apps such as Facetime and Skype, Gen Z is

communicating regularly with individuals who do not occupy the same physical space (Wiedmer, 2015). The reliance, however, on electronics and associated media for communication has led to a desire for more in-person, face-to-face communication both in school and the workforce (Lyons, et al.).

The good news for university admissions teams is that Generation Z does see value in a college education. In a survey of 1,300 middle and high schoolers, current members of Gen Z, 89% rated a college education as valuable (Barnes & Noble College, n.d.). The main reason Gen Z is heading to college is to get a job (Barnes & Noble College). As the first graduation cohort of Gen Z, 88% of the 2017 graduates considered job availability when selecting their major and 83% agreed that their education had prepared them for their career (Lyons et al., 2017).

Gen Z, as a group, do view college as valuable; however, Gen Z members wish to avoid debt (Villa & Dorsey, 2017). Gen Z has learned from the mistakes of their Gen X parents regarding debt. Members of Gen X had the highest average student loan balance and have suffered trying to repay the loans (Josuweit, 2018). Members of Gen Z believe that personal debt should be avoided at all cost (Villa & Dorsey, 2017). According to Eagan et al. (2017), 55.9% of 2016 first year students expressed some level of concern about their ability to pay for college with 13.3% saying they have major concerns about financing their education. Approximately 25% of Gen Z members plan to pay for their education with personal savings and 40% plan to work and earn money during college (Josuweit, p. 3). Villa & Dorsey refer to Gen Z as a throwback generation because they want to “work, save money, and not get stuck or trapped” (p. 25). Gen Z “exhibits attitude, beliefs, and behaviors of generations past” (Villa & Dorsey, p. 3).

## Depression and Anxiety

The World Health Organization (2005) described good mental health as “. . . a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (p. xviii). Unfortunately, many college students are not experiencing strong mental health. As part of the WHO World Mental Health International College Student (WMH-ICS) project, 58,340 incoming freshmen, across eight countries (Australia, Belgium, Germany, Mexico, Northern-Ireland, South-Africa, Spain, and United States), were invited to participate in a survey to estimate the prevalence and correlates of common mental health disorders in first-year college students (Auerbach et al., in press). Between October 2014 and February 2017, 14,371 first-year students from 19 different universities completed the survey. Participants were screened for six common DSM-IV disorders, experienced either for lifetime or previous 12-months. The disorders included both major depression and generalized anxiety disorder. Of the 14,371 respondents, 387 surveys were invalid. Of the remaining 13,984 respondents, 4,935 (35.3%) experienced at least one lifetime disorder and 4,390 (31.4%) screened positive for at least one 12-month disorder (Auerbach et al, in press, p. 2).

Anxiety and depression are often experienced together (Song & Lindquist, 2015). “The main symptoms of depression are losing pleasure in things that were once enjoyable and losing interest in other people and usual activities” (National Institute for Health and Care Excellence, 2009, para. 1). People suffering with depression may also experience irritability, changes in appetite, feeling tired, and problems with concentration, memory, and sleep (National Institute for Health and Care Excellence). Low self-esteem, low life

satisfaction and worse quality of life are also reported by people suffering from anxiety and depression (Beiter et al., 2015). Recognizing behavioral factors and understanding correlates of mental illness can enable university faculty and staff to better help students cope with mental health problems.

#### University Students as At-Risk Population

A World Health Organization survey (Auerbach et al., 2016) was conducted to examine the association of mental disorders with college entry and attrition. The survey participants included 1,572 college students and 4,178 non-students, aged 18-22, from 21 different countries. The results of the survey showed that for the non-students, 894 (21.4%) had a DSM-IV classified mental disorder. The results of the survey further showed that 319 (20.3%) of college students surveyed had a DSM-IV classified mental disorder. Of the college student cases, 265 (83.1%) of the students had pre-matriculation onset (Auerbach et al.). Students who may not have attended college in the past “due to mental health issues, such as depression or schizophrenia, or behavioral or developmental concerns, such as attention-deficit hyperactivity disorder or autism, are now able to attend thanks to better treatment approaches and new medications” (Novotney, 2014, p. 36). Access to better and increased services in elementary and secondary education has helped more students graduate from high school which then qualifies those students to attend college (Novotney).

Depression is one of the most common diagnoses made by mental health professionals dealing with postsecondary students (Villatte, Marcotte, & Potvin, 2017). Several factors may increase college students’ vulnerability to depression. Risk factors include changes in eating and sleeping patterns because of their new college schedule.

Financial stressors, academic worries, and familial problems also can tip the scales towards depression (Ibrahim, Kelly, Adams, & Glazebrook, 2013). Between 2009 and 2015, students seeking help at campus counseling centers grew, on average, by 29.6%, which is more than five times the rate of college enrollment growth (Center for Collegiate Mental Health, 2016). Because seeking counseling is typically an indicator of some type of psychological distress, the rise in students seeking counseling may indicate declining psychological wellbeing in college students (Twenge, Martin, & Campbell, 2018). The possibility also exists that today's college student is simply more willing to seek help; however, other data supports the premise that depression, anxiety, and other mental health problems are increasing. Multiple factors are linked to the increases in mental health problems and are addressed, in detail, throughout the remainder of this section.

The transition to college and all the related stressors contribute to “college students’ stress, anxiety, or depression levels, especially among new students with already existing stressors such as a disability, chronic illness, or psychological disorder” (Eagan et al., 2017, p. 11). The American Freshman: National Norms Fall 2016 survey (American Freshmen Survey) had 137,456 first-time, full-time student participants representing 184 different U.S. colleges and universities (Eagan et al.). The American Freshmen Survey included questions concerning whether incoming students have a mental disability or psychological disorder. Response choices include: psychological disorder (depression, etc.), autism spectrum disorder, chronic illness (cancer, diabetes, autoimmune disorder, etc.), attention deficit hyperactivity disorder, learning disability (dyslexia), and physical disability (speech, sight, mobility, hearing, etc.) (Eagan et al.).

Of the 137,456 incoming freshmen respondents in the American Freshmen Survey, 30,102 (21.9%) identified as having at least one mental disability/disorder, 5,910 (4.3%) as having two, and 2,199 (1.6%) indicated three or more options. The survey also found that students who identified as having a disability/disorder experienced more frequent feelings of depression, anxiety, and feeling overwhelmed. When surveyed, 47,422 (34.5%) of incoming freshmen frequently felt anxious (Eagan et al., 2017).

The Monitoring the Future (MtF) survey is a survey used to collect data to study attitudes, behaviors, and values of American secondary school and college students, as well as young adults. Every year, approximately 50,000 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students are surveyed. Also, annual follow-up questionnaires are mailed to a sample of each graduating class for several years after initial participation (“Monitoring the Future”, 2018). Using data collected in the MtF, Twenge et al. (2018) found a noticeable decrease in adolescent psychological well-being after 2012. Between 1991 and 2011, survey results indicated that self-esteem, self-satisfaction, and life satisfaction measures were all steady or rising, however, each measure declined after 2012. In addition, across the 14 domains of life satisfaction, the domains most strongly correlated with happiness were the measures that declined the most after 2012 (Twenge et al.).

Beginning in 2004, the U.S. Department of Health and Human Services (HHS) commissioned an annual National Survey on Drug Use and Health (NSDUH). The NSDUH includes screening for clinical level depression (Twenge, 2017). The NSDUH employs a probability sample designed to be representative of both the nation as a whole and for each of the 50 states and District of Columbia. The 2016 target sample size of 67,500 was distributed across three age groups: 16,875 (25%) allocated to adolescents

aged 12 -17, 16,875 (25%) allocated to young adults 18-25, and 33,750 (50%) allocated to adults 26 and older. For the 2016 survey, trained interviewers completed a nationally representative sample of 67,942 interviews from respondents aged 12 or older (Substance Abuse and Mental Health Services Administration, 2017). The questions included in the NSDUH are based on the Diagnostic and Statistical Manual (DSM) by the American Psychiatric Association and used for diagnosing clinical depression (Twenge). The survey data reports information regarding major depressive episodes (MDE), MDE with severe impairment, any mental illness (AMI) and serious mental illness (SMI) and results are stratified into age groupings: 12-17, 18-25, 26-49, and 50 or older.

In the NSDUH, an MDE was defined as having a time period of two weeks or longer in the past 12 months when one experienced “a depressed mood or loss of interest or pleasure in daily activities, and they had at least some additional symptoms, such as problems with sleep, eating, energy, concentration, and self-worth” (Substance Abuse and Mental Health Services Administration, 2017, p. 34). Adults were defined as having MDE with severe impairment “if their depression caused severe problems with their ability to manage at home, manage well at work, have relationships with others, or have a social life” (Substance Abuse and Mental Health Services Administration, p. 34). The results of the 2016 survey revealed an estimated 3.7 million (10.9%) of young adults, aged 18-25, had a past year MDE. The percentage of young adult MDE was greater in 2016 than in 2005 to 2014 but was similar to 2015 percentage. For the same age group, the percentage was 8.8% in 2005. Regarding MDE with severe impairment, an estimated 2.4 million (7.0%) young adults, aged 18-25, suffered from a past year MDE with severe impairment. The percentage of young adult MDE with severe impairment was greater in



2016 than in 2009 to 2014 but was similar to 2015 percentage. For the same age group, the percentage was 5.2% in 2009. (Substance Abuse and Mental Health Services Administration, 2017).

In the NSDUH, adults with AMI were defined as having “any mental, behavioral, or emotional disorder in the past year that met DSM-IV criteria . . .” (Substance Abuse and Mental Health Services Administration, 2017, p. 37). Adults with AMI were defined as having SMI if “they had any mental, behavioral, or emotional disorder that substantially interfered with or limited one or more major life activities” (Substance Abuse and Mental Health Services Administration, p. 37). AMI and SMI are not mutually exclusive categories. For the 2016 survey, an estimated 7.6 million (22.1%) young adults, aged 18-25, had AMI in the past year. The percentage of young adults in 2016 who had AMI was greater than the percentages from 2008 to 2014, but was similar to the percentage in 2015. For the same age group, the percentage in 2008 was 18.5%. Results of the 2016 survey revealed that an estimated 2.0 million (5.9%) young adults, aged 18-25, had SMI in the past year. Again, the 2016 estimate is higher than the estimates in all years between 2008 and 2013, but was similar to the percentages in 2014 and 2015. For the same age group, the 2008 percentage for SMI was 3.8% (Substance Abuse and Mental Health Services Administration, 2017). The results on the NSDUH support the assertion that mental illness, specifically depression, is increasing in traditional aged college students.

#### New Media Screen Time and Mental Health

To explore the reasons behind the recent increases in mental health problems, Twenge et al. (2018) explored the relationship between adolescent psychological well-

being and a variety of other activities, “including electronic communication and screen time (e.g., Internet, social media, texting, gaming, TV), in-person/face-to-face social interaction, and other non-screen activities. . .” (p. 768). Other activities included homework, sports or exercise, religious services, paid jobs, and reading print media (Twenge et al., 2018). The researchers found that adolescents who spent more time on electronic communication and screens were “less satisfied with their lives, and had lower self-esteem, especially among 8<sup>th</sup> and 10<sup>th</sup> graders. While the negative correlation between screen activities and well-being was weaker among 12<sup>th</sup> graders, all three age groups showed positive correlations between non-screen activities and well-being. The happiest adolescents had high scores in time spent in face-to-face interactions and low scores in electronic communication (Twenge et al., 2018).

Twenge (2017) reviewed alternative arguments for the rise in mental health problems and argued that a two-part test must be applied to validate possible reasons other than electronic media screen time. In order to be considered as a possible reason for increased mental health problems “(1) it must be correlated with mental health issues or unhappiness . . . and (2) it must have changed at the same time and in the correct direction” (Twenge, p. 112). Alternative reasons that have been put forward include academic pressure (Dwyer, 2014), time spent watching TV, and less time spent on exercise and sports participation (Twenge), however, none of these three reasons pass the two-part test. Time spent doing homework and participation in exercise and sports remained stable over the period of interest. Further, adolescent time spent watching TV has declined (Twenge).

Twenge (2017) noted three activities that pass the two-part test: new media screen time, in person social interaction, and print media. Twenge offered the following as a plausible theory:

. . . includes three possible causes: (1) more screen time has led directly to more unhappiness and depression, (2) more screen time has led to less in-person social interaction, which then led to unhappiness and depression, and (3) more screen time has led to less print media use, leading to unhappiness and depression. (p. 112)

In a systematic review of research literature on the relationship between problematic smartphone use and anxiety and depression (Elhai, Dvorak, Levine, & Hall, 2017), depression severity was consistently related to problematic smartphone use. Anxiety was also related to smartphone use, although with smaller size effects. Admittedly, relationship does not imply causation. A 2015 study, however, provided causal evidence that social media use, specifically Facebook, negatively impacted well-being (Tromholt, 2016).

#### Sleep Duration and Mental Health

Another habit commonly associated with college students is lack of sleep. The National Sleep Foundation's sleep time duration recommendation for young adults and adults is seven to nine hours per night (Hirshkowitz et al., 2015). In a study of 7,626 college students from six U.S. universities, 2,719 (35.7%) students reported sleeping less than the recommended seven hours per night. Further, 2,072 (27.2%) reported *fairly bad* or *very bad* sleep quality (Becker, Jarrett et al., 2018). In the same study, Becker, Jarrett et al. found that "anxiety and depressive symptoms were most consistently associated

with poorer sleep, with similar associations with sleep quality . . .” (p. 180). Anxiety and depressive symptoms did, however, have some different impacts. Anxiety symptoms, but not depressive symptoms, were uniquely associated with increased sleep disturbance and use of sleep medication; whereas depressive symptoms were associated with higher levels of daytime dysfunction (Becker, Jarrett et al.).

Insufficient sleep has also been shown to increase the relative risk of developing depression (Owens, 2014). Lack of sufficient sleep, particularly in college students, is associated with higher risk of depressive symptoms (Regestein et al., 2010). In Regestein et al.’s study, results of insufficient sleep correlated with the statements “I felt depressed” and “I thought my life had been a failure” (p. 37). In addition to less overall duration, later bedtimes, specifically after 2:00 a.m., risked depression symptoms, as well (Regestein et al.).

Beyond depression, some research links poor sleep with increased risk of suicide (Bernert, Hom, Iwata, & Joiner, 2017; Pigeon, Pinquart, & Conner, 2012; Woznica, Carney, Kuo, & Moss, 2015). In a study of 1,700 college students, Becker, Dvorsky, Holdaway, & Luebke (2018) found that almost one-third of the participants classified with sleep problems were also classified with suicide risk. Further, even after controlling for gender and depression, poor sleep remained significantly associated with increased suicide risk (Becker, Dvorsky et al.).

Interestingly, Twenge, Krizan, and Hisler (2017) posited that sleep duration is impacted by new media screen time, further compounding the negative impacts of excess screen time. Researchers found that use of electronic devices “before bedtime prolongs the time it takes to go to sleep, delays the circadian clock, suppresses levels of sleep-

promoting hormone melatonin, and reduces the amount and delays the time of REM sleep. . .” (Chang, Aeschbach, Duffy, & Czeisler, 2015, p. 1232).

The iPhone was the first smartphone model introduced by Apple in 2007 and quickly became ubiquitous device in the United States (“iPhone”, n.d.) A 2018 survey indicated that 77% of U.S. adults have a smartphone and 53% own a tablet computer. For adults aged 18-29, the smartphone percentage increased to 94% (“Mobile Fact Sheet”, 2018). Twenge et al. (2017) noted that in 2011-2012, smartphones and other portable devices, such as tablets, gained greater than 50% market saturation. The 50% market saturation point is important because the percentage of adolescents reporting getting insufficient sleep rises abruptly after 2011 – 2013 (Twenge et al., 2017). Citing the coincidental rise in adolescent ownership of smartphones, Twenge et al. (2017) believed the likely culprit in the loss of sleep is the increased usage of new media screen time.

A meta-analysis of birth cohort increases in mental disorders found that, beginning in 1938, each subsequent generation reported higher percentages of mental health problems (Twenge et al., 2010). Using the 1930s-1940s college student mental disorder scores as a benchmark, 70% more college students now score above average on the same mental disorder scales (Twenge et al., 2010). Some researchers (Eckersley & Dear, 2002; Twenge et al., 2010) hypothesized that the impact of individualism and consumer culture have caused young adults’ mental health to suffer. Individualistic cultures, such as the United States, have both desirable and undesirable consequences. Individualistic societies have higher suicide rates, suggesting that personal freedom may have a trade-off in a loss of social support (Eckersley & Dear).

The consumer culture shifts the motivational focus from intrinsic to extrinsic goals. Surveys of high school and first year college students show a “marked increase in materialistic values between the 1970’s and the present, with more high school students agreeing that ‘having a lot of money’ is important and more college students agreeing that it is important to ‘be well-off financially’” (Twenge et al., 2010, p. 146) Kasser & Ryan (1996) found that pursuit of extrinsic goals, such as wealth, physical appearance, and status, is positively linked to psychological distress and negatively linked to well-being. The reverse is true of intrinsic goals, in that the pursuit of goals such as affiliation, community, physical fitness, and self-acceptance are positively associated with well-being and negatively associated with distress (Kasser & Ryan).

#### Treating Mental Health Problems at Colleges and Universities

The Gallagher Survey of College Counseling Center Directors (Gallagher, 2014) reported that 58% of four-year colleges and universities have on-site psychiatric facilities appropriate for treating mental illness. Comparatively, only 10% of community colleges surveyed have onsite services (Gallagher). The lack of resources is especially unfortunate given that students with multiple mental health risk factors are more likely to attend a community college than a four-year institution (Eisenberg, Goldrick-Rab, Ketchen Lipson, & Broton, 2016). In fact, a 2014 study at both community colleges and four-year institutions in California found that community college students have more severe psychological concerns, yet fewer mental health campus resources when compared to students at four-year universities (Katz & Davidson, 2014).

## Mental Health Problems and Effects on College Students

The transition to college can be extremely stressful because it represents a period of double transition, both institutional and social. Emerging adults move from a high school setting to university, which, typically, represents a significant change. Further, most students are also changing friend groups during the transition, disengaging from their high school friends and attempting to establish new connections at university (Mackinnon, Sherry, Pratt, & Smith, 2014). Losing an important support group, such as high school friends, can cause emotional distress. The first semester of college is challenging for many first-year students; however, those coping with the internal stressors due to mental health issues are especially vulnerable to adjustment problems which may cause early exit from their chosen institution (Nordstrom et al., 2014). While college students enjoy more freedom, college courses tend to have higher level of outside workload and students face higher academic expectations (Schwartz, Côté, & Arnett, 2005).

Using research from the National Comorbidity Survey, Kessler, Foster, Saunders, and Stang (1995) found that college students with mental health problems are more than twice as likely to drop out of college without earning a degree. Bruffaerts et al. (2018) surveyed 4,921 college students to examine the extent to which mental health problems are associated with academic outcomes. The results of the study indicate that students with mental health problems, in the previous 12-month period, have an average decrease of 2.9 - 4.7% in their grade point average percentage. The average decrease is equivalent to an approximately 0.2 - 0.3-point reduction in GPA (Bruffaerts et al., p. 101).

For students, the cost of mental health issues goes far beyond possible loss of tuition dollars owing to college drop out. The personal cost for college students can include substance abuse ramifications, high health care costs, and, even suicide (Villatte et al., 2017). To help alleviate both the financial and personal costs, colleges and universities should prioritize early identification of problems so that interventions can happen.

Villatte et al. (2017) conducted a study aimed at identifying and ranking the personal, family-related, social, and academic correlates of depressive symptoms in first year college students. Participants included 389 first year college students. After controlling for gender, the analyses isolated eight variables uniquely associated with first year students' depressive symptoms.

Ranked in decreasing order of importance, the factors are: (1) the absence of personal goals (i.e. not knowing in which direction they were heading); (2) a high level of anxiety; (3) the presence of dysfunctional thoughts regarding success; (4) not feeling emotionally adjusted to college (i.e. having difficulty dealing with the stress of college life); (5) being female; (6) a lack of warmth and encouragement of autonomy from their mother, on the one hand; and (7) from their father, on the other hand; (8) being homosexual or bisexual. (Villatte et al., p. 125)

A high prevalence of mental disorders with low corresponding treatment has been found in studies of community college students (Eisenberg, Goldrick-Rab et al., 2016). Beyond the impact on individual well-being, lack of treatment can have significant future impacts. Eisenberg, Goldrick-Rab et al. cited higher utilization of social services, such as criminal justice and unemployment insurance, lower levels of job skills and education,



and unhealthy coping behaviors including substance abuse and risky sexual behavior, as possible future impacts.

According to Kerr & Capaldi (2011), adolescent males who attempted suicide before 18 years old are more likely to be aggressive, jealous, and violent in their intimate relationships. In fact, 58% of suicide attempting youth went on to injure a partner, as compared to 23% of non-attempting youth (Kerr & Capaldi). Untreated mental disorders can also lead to relationship problems and increased use of violence and incarceration (Eisenberg, Goldrick-Rab et al., 2016). Society, as a whole, can pay a significant cost, as well. According to a 2009 Institute of Medicine report, the cost to society of mental disorders among people under the age of 25 is close to \$250 billion every year (O'Connell, Boat, & Warner, 2009).

#### Mental Health Problems and Corresponding Effects on Colleges and Universities

The National Alliance on Mental Illness (NAMI) conducted a survey of individuals diagnosed with a mental health condition who were currently enrolled or were, over the previous five years, enrolled in college (Gruttadaro & Crudo, 2012). Of the 765 student responses, 64% were no longer attending college because of a mental health related reason. "More than 45% of those who stopped attending because of a mental health related reason did not receive accommodations" (Gruttadaro & Crudo, p. 8). Because the students did not receive appropriate accommodations, many were unable to complete their course work or, if completed, the students received low, or failing, grades. Students suffering from mental health problems were often forced to reduce their course load to part-time status in order to successfully complete the course work. Both low GPAs and having part-time student status have financial aid availability implications.

The recognition of the student mental health problems and the initiation of programs designed to help those students is a positive step for universities. Obtaining a college degree is an important step towards stable employment and achieving financial independence (Gruttadaro & Crudo, 2012). The provision of these services, unfortunately, places a strain on already stretched university resources, both in terms of human and financial resources. In the survey, *College Students Speak: A Survey Report on Mental Health* (Gruttadaro & Crudo), NAMI sought specific information regarding the most helpful universities services for students suffering from mental illness. Some suggested services include: providing more long-term, licensed mental health counselors to prevent disruption in care, providing information to campus community on common mental health conditions and how to get care, hosting campus educational activities, and treating mental health conditions with the same importance as physical health conditions. (Gruttadaro & Crudo).

### Resilience

The concepts of resilience originated in the sciences of physics and mathematics. The term originally was used to describe “the capacity of a material or system to return to equilibrium after a displacement” (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008, p. 127). Early research into human resilience was conducted by mental health professionals, including psychologists, psychiatrists, and sociologists, and focused primarily on children (Reivich & Shatté, 2002). Resilience theory, as it relates to human psychological well-being, is rooted in the positive psychology movement as initially conceptualized by Seligman and Csikszentmihalyi (2000). Prior to their work, the focus of psychology had been identifying and repairing negative human functioning (Leary &

DeRosier, 2012). The aim of positive psychology is to focus on building positive qualities to help individuals flourish (Seligman & Csikszentmihalyi). An overview of the foundation and levels of positive psychology follows:

The field of positive psychology at the subjective level is about valued subjective experiences: well-being, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present). At the individual level, it is about positive individual traits: the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent, and wisdom. (Seligman & Csikszentmihalyi, 2000, p. 5)

Positive psychology focuses on “the study of the conditions and processes that contribute to the flourishing or optimal functioning” (Gable & Haidt, 2005).

The concept of resilience is now applied to a variety of psychological theories. Researchers attach a variety of adjectives to the term resilience, such as: academic resilience, psychological resilience, emotional resilience, and relational resilience (Allan, McKenna, & Dominey, 2014; Morales, 2014). The meaning of resilience appears to vary across studies, time, context, and participant group of study (Harvey & Delfabbro, 2004). Resilience has been “defined in terms of success in educational achievement; positive behavioural adjustment; enhanced cognitive functioning; or as the absence of psychopathology” (Harvey & Delfabbro, p. 4). Resilience entails the capacity for successful adaptation in spite of challenge and threat (Jayalakshmi & Magdalin, 2015). Rutter (1985) described resilience as a process that involves both risk and protective factors, internal or external to an individual that can impact the effects of negative life

events. Most research about resilience seems to point to the ability to overcome hardship and adversity and help towards well-being.

Kitano and Lewis (2005) highlighted four factors that function to influence resilience: compensatory, risk, protective, and vulnerability. Tiet et al. (1998) noted that compensatory factors, like healthy functioning family and high educational aspirations, always have a positive, or beneficial, impact on resilience. Letters of recommendation from a high school teacher or guidance counselor could also serve as a compensatory factor (Morales, 2014). Risk factors always have a negative, or potentially harmful, effect. Risk factors are usually environmental and include things such as “inferior schools, lack of access to technology, or insufficient funds for test preparation or quality textbooks” (Morales, p. 94).

Protective factors, according to Kitano and Lewis (2005), can exert a buffering effect, which can serve to mitigate negative factors. Protective factors could include high self-esteem, internal locus of control and strong social skills (Kitano & Lewis). External protective factors could include caring or inspiring role models, such as teachers, parents, or other role models (Morales, 2014).

“A vulnerability area is a particular issue that manifests as problematic in a given situation” (Morales, 2014, p. 94). Vulnerability factors are the opposite of protective factors. Morales, by way of example, states “while a risk factor may be lack of access to honors courses, the resulting deficiency in that student’s college application would be the vulnerability area” (p. 94). “Compensatory strategies are specific actions that can alleviate or even defeat risk factors and vulnerability areas” (p. 94). Therefore, to build

resilience, students can be taught to employ compensatory skills and strategies by university faculty.

Leary and DeRosier (2012) reviewed four resilience factors, selected on an examination of resilience literature. The factors include social connections, self-care behaviors, cognitive style, and life and coping skills. Leary and DeRosier's study population of interest was first year college students and the study's purpose was to assess the impact of the resilience factors on stress during the transition to college.

For first-year students, the development of social connections and avoiding social isolation is critical to a successful transition to college. Personal connections also have implications for academic achievement and psychological well-being. (Leary & DeRosier, 2012). The lack of positive social connection is predictive of lower academic achievement (Walton & Cohen, 2007) and depressive symptoms, anxiety, and stress (Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007). As previously discussed, the transition to higher education can be an extremely stressful situation. Strong social connections and support can be a valuable resource to aid new students in "combating stress and anxiety and promoting positive adjustment and well-being" (Leary & DeRosier, p. 1216).

A second factor explored by Leary & DeRosier (2012) was self-care. Self-care behaviors include such things as healthy eating, exercise, proper sleep. "During times of stress, the extent to which individuals engage in health-promoting behaviors and maintain a healthy life-style has been found to positively impact their psychological well-being" (Leary & DeRosier, p. 1216).

A third factor explored was personal, social, and behavioral coping skills. According to Leary & DeRosier (2012), students who possess better coping, or regulatory skills, are in greater control of their emotions during stressful times. The ability to maintain control should help students experience better outcomes during their transition to college. The cultivation of positive emotions can help develop resilience as a better response to stressful situations (Tugade & Fredrickson, 2007).

Another resilience enhancing factor is cognitive style. According to Leary & DeRosier (2012), cognitive style is the manner in which students explain their own personal successes and failures. Cognitive style also encompasses the students' level of confidence in their abilities and whether their future outlook is optimistic or pessimistic (p. 1216). Cognitive style is related to causal analysis. Reivich & Shatté (2002) defined causal analysis as a person's ability to accurately identify the causes of their own problems (p. 41). Abramson, Seligman, and Teasdale (1978) related explanatory style to causal analysis. Explanatory style is the habitual way one explains the good and bad things that happen (Reivich & Shatté, p. 42). When a student's explanatory style correctly identifies the cause of problems, failures, or stress, whether personal or circumstantial, the student feels a better sense of control which increases their level of confidence. An increased level of confidence engenders a positive outlook for the future and increases the student's view of their ability to handle obstacles. Appropriate cognitive and explanatory style, along with personal confidence, lead to greater resilience and greater psychological well-being (Leary & DeRosier, 2012)

The most recent computed six year graduation rate for full-time students seeking a degree at a 4-year degree granting institution is 59% (U.S. Department of Education,

National Center for Education Statistics, 2017). The percentages for African American students are even lower at 41% (Musu-Gillette et al., 2017). Graduation rates are also lower based on students' socioeconomic status, with poorer students experiencing consistently lower graduation rates as compared to students from wealthier families. The National Center for Education Statistics reported that college graduation rates among students from low socioeconomic status (SES) families is 14% compared to 60% for students from high socioeconomic status (SES) families (Bjorklund-Young, 2016). The problem of lower graduation rate exists even for students with similar academic ability, based on test scores (Morales, 2014).

Finding ways to impact graduation rates for lower SES students is important because, all things considered, earning a college degree is still the most direct route out of poverty (Perna, 2005). Morales (2014) asserted that increased resilience is a means by which poor students are able to excel despite obstacles that cause others in similar situations to fail. The extent to which college students handle the first-year stressors is directly related to their academic resilience (Zajacova, Lynch, & Espenshade, 2005).

Research supports a significant relationship between resilience and mental health (Jayalakshmi & Magdalin, 2015). In a United Kingdom study of 1,534 first year students, the researchers found the students' overall mean resilience score was lower than adults within the general population. The results, according to the researchers, may be due to declining mental health, poor resilience, and/or problematic transition to higher education (Allan et al., 2014). The participants' resilience scores were then compared to year-end academic outcomes. Higher resilience was associated with higher grade performance in female students, but not male students. In fact, higher resilience was linked to lower

academic performance in male students (Allan et al.) The score differential results may indicate a need for varied approaches to both pedagogy and mental health interventions based on gender (Allan et al.).

Eisenberg, Ketchen Lipson, & Posselt (2016) believed that resilience can directly impact retention because resilient students handle academic challenges in a more positive manner. Resilience helps students manage through and bounce back from setbacks, such as a bad grade or failing an exam (Eisenberg, Ketchen Lipson et al., 2016). Because resilience can mediate the impact of mental health problems, students can better focus on improving academic performance (Hartley, 2011).

According to Jayalakshmi & Magdalin (2015), resilient people are able to laugh at themselves and find humor in their situations. Further, resilience helps people have moral courage, self-confidence and develop realistic plans to achieve their goals. Taken together, courage, self-confidence and goal achievement lead to stronger mental health (Jayalakshmi & Magdalin). The benefits of resilience include helping students recover from mental health challenges (Eisenberg, Ketchen Lipson et al., 2016). According to Werner (2000), resilient individuals have an internal locus of control, greater social maturity and sense of responsibility, and a more positive self-concept.

Research begun by Masten, Best, & Garmezy (1990) revealed that humans utilized resilience in three basic ways: overcoming, stress-resistance, and recovery. Reivich & Shatté (2002) referred to these three resilience outcomes as overcoming, steering through, and bouncing back. The concepts are the same, only the terminology is different.



Many adults have faced significant obstacles, or external pressure, as children. Using resilience reserves, the adults are able to overcome issues such as poverty, parental divorce, and physical or emotional abuse. It is through resilience, individuals can set aside the damage from their youth and work to create their preferred life (Reivich & Shatté, 2002).

According to Reivich & Shatté (2002), the most important characteristics in stress resistance, or steering through, is self-efficacy. Self-efficacy is the belief that one is able to overcome environmental obstacles and solve problems as they arise. As people solve problems, their sense of self-efficacy increases, and the corresponding inner confidence helps create a positive spiral of increasing resilience.

The third way in which people use resilience is in recovery, or bouncing back, from major setbacks or life-altering events (Reivich & Shatté, 2002). Examples of setbacks include divorce, job loss, or the death of a parent or child. The level of resilience a person has can determine whether the setback leads towards depression and helplessness or if one is able to bounce back and find ways to move forward in life.

While the original three concepts stemmed from the work of Masten et al., (1990), Reivich & Shatté (2002) added a fourth use of resilience. The first three uses are reactive in nature, representing responses to adversity. Reivich & Shatté called the fourth use of resilience reaching out. While clearly resilience is critical to moving beyond negative life experiences, “it is equally necessary for a life that is rich in meaning, deep in connections, and committed to the pursuit of learning and new experiences” (p. 27).

Individuals who are able to use their resilience to reach out excel in three separate areas:

assessing risks, knowing themselves, and finding meaning and purpose in their lives (Reivich & Shatté).

### Instruments

#### Depression Anxiety Stress Scale (DASS)

Lovibond and Lovibond (1995) conducted a research program with the goal to develop a self-report anxiety and depression survey that would “(a) cover the full range of core symptoms of anxiety and depression, (b) meet high psychometric standards, and (3) provide maximum discrimination between the two scales” (p. 336). The researchers obtained data from 30 samples and the project was carried out between 1979 and 1990 (Lovibond & Lovibond, 1995). As the research unfolded, a new factor, in addition to depression and anxiety, emerged from the analysis with items that included difficulty relaxing, nervous tension, irritability, and agitation. As the items were tested, a new scale, labeled stress, was included as part of the survey (Lovibond & Lovibond, 1995). The results of the DASS research were compared to the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI). The Beck Inventories were both widely used and previously validated measures, used in clinical settings.

The researchers found that the DASS Anxiety Scale and the BAI were highly correlated ( $r = 0.81$ ), while the DASS Depression Scale and the BDI were less strongly correlated ( $r = 0.74$ ). The main difference, according to Lovibond and Lovibond (1995), relates to the BDI inclusion of several items not uniquely, or strongly, related to depression. The items included weight and appetite loss, loss of libido, and somatic preoccupations. In a systematic review of clinician-rated and self-reported symptoms of anxiety and depression, Clark (1989) reported that loss of appetite, overeating/weight

gain, loss of sexual interest, and increased sleep were weak or inconsistent discriminators of depression in patients. Therefore, by excluding the weak or inconsistent factors from the DASS Depression Scale, the scores on the DASS were more specifically related to depression rather than anxiety or other negative emotional state (Lovibond & Lovibond, 1995).

The DASS is comprised of three self-report scales intended to measure negative emotional states of depression, anxiety, and stress. The DASS was designed to meet the requirements of both researchers and professional clinicians (Lovibond & Lovibond, 1996). The DASS contains three subscales, one for each emotion. Depression indicates a low level of positive affect (Oei, Sawang, Goh, & Mukhtar, 2013) and may be indicative of hopelessness, lack of interest/involvement, or devaluation of life (Lovibond & Lovibond, 1996). The anxiety scale assesses autonomic arousal and situational anxiety (Lovibond & Lovibond, 1996). Anxiety can present as a combination of general distress, irritability, agitation, and impatience (Oei et al.). Finally, the stress scale assesses difficulty relaxing, nervous arousal, and being easily upset or over-reactive (Lovibond & Lovibond, 1996).

*The Overview of the DASS* (2017) described characteristics of high scorers on each DASS scale. High scorers on the depression scale are characterized as self-disparaging, dispirited, convinced that life has no meaning, pessimistic about the future, unable to experience enjoyment, and slow and lacking in initiative. High scorers on the anxiety scale can be described as apprehensive, panicky, shaky, aware of dry mouth, pounding heart, sweaty palms, and worried about performance and possible loss of

control. Subjects scoring high on the stress scale can be considered tense, touchy, easily upset, irritable, fidgety, and intolerant of interruption or delay (Overview of the DASS).

The original DASS was developed as a 42 item self-report survey. A shorter version, DASS-21, was later created to reduce administration time (Oei et al., 2013). Normal and clinical samples provide support for the three-factor structure and the DASS and DASS 21 and for their convergent and discriminant validity (Willemsen, Markey, Declercq, & Vanheule, 2011). The DASS 21 is a psychometrically sound instrument with good reliability and validity and has been established as a good instrument for use in Western populations (Oei et al.).

#### Connor Davidson Resilience Scale (CD-RISC)

Resilience research has continued to grow both in application and populations of interest. Therefore, finding reliable and valid measurements has become increasingly important. Valid measurement has been made more difficult due to the complexity of the construct of resilience (Windle et al., 2011). Without a consistent operational definition, creating valid instruments presents a significant challenge. Further, inconsistent approaches have led to difficulty in estimating the prevalence of risk factors and protective processes (Windle et al.).

The CD-RISC identified specific features of overall resilience, such as “personal competence and tenacity, secure relationships, trust in one’s instincts, feelings of control and acceptance of change” (Allan et al., 2014, p. 12). The CD-RISC is a 25 item, self-reported instrument that is used to calculate overall resilience, on a scale of 1 – 100, where higher scores reflect greater resilience. The instrument also contains five contributory subscales: (a) personal competence, high standards tenacity (b) trust in one’s

instincts, tolerance of negative affect, and strengthening of stress, (c) positive acceptance of change, and secure relationships, (d) control, and (e) spiritual influences (Pangallo, Zibarras, Lewis, & Flaxman, 2015). In a review of 19 resilience instruments (Windle et al., 2011), the CD-RISC was rated in the highest level on total quality assessment.

In a review of 17 different resilience instruments, Pangallo et al. (2015) identified 24 emergent themes; eight higher order and 16 subthemes. The identification of the themes is important for evaluation of the various instruments as the themes are characteristics associated with resilience. The themes were organized into two broad categories: person and situation. Person categories relate to internal resources including competence and stable attributes, whereas situation categories related to external resources in the immediate environment or even wider community. The higher order person themes include adaptability, self-efficacy, active coping, positive emotions, mastery, and hardiness. The situational themes are social support and structured environment. The CD-RISC includes items covering adaptability, self-efficacy, active coping, positive emotions, hardiness, and supportive relationships. The broad coverage of the important characteristics of resilience supports the CD-RISC as a strong instrument for use in assessing resilience. In summary, Pangallo et al. demonstrated that the CD-RISC demonstrates acceptable psychometric properties and moved beyond solely the measurement of personal variables to define resilience (p. 17).

### Interventions

Psychological distress tends to increase over time during college, therefore, early identification and intervention can help students persist to graduation (Allan et al., 2014). Kamath (2015) identified two different categories of interventions that can be undertaken

to help students deal with college life: primary and secondary. Primary measures are preventative in nature while secondary measures should be put in place to deal with the consequences of problems. According to Kamath, secondary measures can include campus counseling centers and other supportive university personnel and systems that can help a student who is experiencing psychological stress. However, universities should also emphasize primary interventions, such as training and development, which can help eliminate or, at least reduce the stress by developing strong coping mechanisms and stress resistant characteristics, such as resilience (Kamath).

College counseling centers focus on individualized sessions and treatment plans. With the growing number of students experiencing depression, anxiety, and stress symptoms, campus counseling centers sometimes have a waiting period of in excess of two weeks. (Misner, 2014). After two weeks, students with health insurance may be given a list of recommended counselors at off-campus locations because the campus center cannot triage the students in a reasonable time period (Misner). Because of the limited resources, universities need to seek other timely and effective ways to help students.

The lack of funding for university mental health care services has driven university personnel to attempt to meet needs in non-traditional ways. At the University of Texas at Austin's Counseling and Mental Health Center, a new, brief assessment tool was created with which trained counselors can, basically, triage students need for referral to appropriate level of care (Novotney, 2014). Some students only need a single counseling session to discuss a personal concern or problem solve a situation, others are in need of immediate and, possible, extended care (Novotney). By finding innovative,

real-time assessment tools, university personnel can intervene in a more effective, and efficient manner.

The University of Florida launched a Therapist Assisted Online (TAO) program that delivers therapy for anxiety disorders via a computer or smartphone. The program was launched as a response to an ever-increasing waiting list of students needing university counseling center services (Novotney, 2014). Continuing the research and practices developed and conducted internationally, a team of researchers and practitioners developed the materials and platform for the TAO treatment for anxiety. The treatment includes several different tools:

(a) interactive, online education modules that are based on CBT, mindfulness, and exposure; (b) a weekly, 10- to 12- min video conference with a therapist; (c) three weekly text messages for support and encouragement; (d) daily homework that clients can complete on a smartphone or tablet; and (e) completion of a standard, weekly progress measure to assess mental health changes over time. (Benton, Heesacker, Snowden, & Lee, 2016, p. 364)

Data analysis revealed the TAO scores were significantly greater than the treatment-as-usual scores (Benton et al.) Utilizing programs, such as TAO, can help university personnel serve more and better university students in need of counseling and mental health support.

Another way that universities can help students is to offer preventative interventions, such as classroom based training and with specially designed curriculum. Classroom based interventions can increase the likelihood that students will receive needed mental health services (Conley et al., 2013). According to Conley et al., course-

based interventions show promise for meeting the needs of college students, especially for students who might have reservations about seeking mental health services.

Eisenberg, Goldrick-Rab et al. (2016) suggested a series of resources that community colleges could provide to assist students with mental health problems. First and foremost, additional counseling and health services and programs, both preventative and treatment based are sorely needed. When financial and human resources are lacking, college personnel can work to help link students to community-based services such as Medicaid. Community college counselors and mental health professionals can provide training to faculty and staff. The training can help ensure that campus personnel can identify student mental health issues and refer students to the needed resources. Finally, all colleges should have crisis and safety protocols in place to protect students and college personnel from situations where a student may be a danger to themselves or others (Eisenberg, Goldrick-Rab et al.)

Resilience interventions have grown in popularity due to the relationship between resilience and mental health. Eisenberg, Ketchen Lipson et al. (2016) suggested three levels of possible interventions: tertiary, secondary, and primary. At the tertiary level, interventions target students already experiencing serious mental health issues or academic outcomes. At the secondary level, programs focus on student populations with high risk of dropping out of college. The U.S. Department of Education has a model called Student Support Services (SSS), which focuses on two highly vulnerable populations, low-income, first-generation students, and students with disabilities (Eisenberg, Ketchen Lipson et al.).



A primary, or universal, level approach generally is curriculum based and delivered to entire cohorts of students during different academic year periods. Curriculum based interventions are often delivered through universities' First Year Experience (FYE) programs. FYE programs can be designed as summer orientations or first-semester or first-year programs. Programs can be led by faculty or student development professionals and supplemented with peer support students. Primary level programs often focus on practical and academic parts of college life. Student outcomes may be strengthened by incorporating training on resilience, coping, and stress management (Eisenberg, Ketchen Lipson et al., 2016).

Building resilience can be seen as a development process. As students consistently overcome adverse situations, self-efficacy and confidence in their ability to influence their environment increases (Werner, 2000). "Development of resilience involves internal personality characteristics, coping strategies, and environmental factors" (Kitano & Lewis, 2005, p. 201).

Morales (2014) conducted a qualitative study of 50 ethnic minority, academically resilient students. The prerequisites for study recruitment included: had parents with limited educational background (high school graduates or below), self-identified as ethnic minority, and had completed a minimum of 30 college credits with a minimum of 3.0 GPA on a 4.0 scale. Because the data indicates that ethnic minority students from poor backgrounds are statistically less likely to attend and succeed in college (Aud et al., 2013), the students that met the three criteria were deemed "academically resilient" (Morales, 2014, p. 94). Morales undertook the study to determine specific ways that universities could encourage resilience in minority and low SES students. By conducting

multiple interviews with academically resilient students, the researcher was able to determine practices that facilitated their success. The findings are focused, very specifically, on classroom practices that can be implemented by university faculty. The broad categories that Morales found for universities to focus on are constantly building students' self-efficacy, helping students realistically appraise their own strengths and weaknesses, encourage help-seeking tendencies, and providing clear linkages between academic success and future economic security (Morales, p. 95).

Allan et al. (2014) found that male students had high trust in their own abilities but underperformed, compared to female students, academically. The study results perhaps indicate that male students overestimated their abilities. By employing Morales (2014) suggestion to help students more realistically assess their personal strengths and weaknesses, male students may be more open to resilience building activities, which might lead to higher academic success. Further, male students may need encouragement to access help and work with others to handle obstacles to their academic success (Allan et al.).

As the literature has demonstrated, classroom-based interventions can be helpful in decreasing depression and anxiety, as well as increasing student resilience. Three areas of focus have been consistently shown to be important and effective: practicing gratitude, mindfulness, and controlled breathing exercises.

#### Gratitude

Researchers in the area of positive psychology identified 24 character strengths that enable people to lead meaningful lives. The character strengths are categorized under six headings: wisdom, courage, humanity, justice, temperance, and transcendence

(Donaldson, Dollwet, & Rao, 2015). According to Wilson (2016), of the identified character strengths, gratitude, hope, and resilience have been the most scientifically researched. Emmons (2010) defined gratitude as an ability to recognize and appreciate the benefits received from others and accompanies a desire to reciprocate. “Gratitude is acknowledging and appreciating your blessings. Gratitude is your moral memory and represents your thankfulness for every experience” (Sood, 2015, p. 5).

Gratitude has been explored as both a genetic disposition as well as a learned trait. Lyubomirsky, Sheldon, and Schkade (2005) believed that 50% of an individual’s happiness is a genetic set point and 10% is accounted for by circumstance. The remaining 40% of variance can be moderated by intentional activities designed to improve one’s happiness. Emmons and McCullough (2003) identified some intentional gratitude practices that can be used to strengthen an individual’s overall level of happiness or gratitude. Some of the identified gratitude practices include keeping a gratitude journal, writing gratitude letters, and expressing gratitude in conversation as a matter of routine (Wilson, 2016).

The benefits of gratitude can impact multiple aspects of a healthy life. Emmons (2010) noted that, in terms of physical benefits, grateful people have stronger immune systems, lower blood pressure, and are less bothered by aches and pains. Further, grateful individuals exercise more and focus on taking better care of their health. Finally, people who cultivate gratitude also sleep longer and wake up feeling more refreshed (para. 5).

Emmons (2010) also contended that grateful people have higher levels of positive emotions such as joy, pleasure, optimism, and happiness (para. 6). Gratitude also leads to

lower levels of stress (Wood, Joseph, & Maltby, 2009). Socially, grateful people tend to be more helpful, generous, and compassionate. Gratitude can make people more outgoing which reduces feelings of loneliness and isolation (Emmons). Emmons believed that gratitude is a social emotion and is relationship strengthening.

Gratitude also heightened cognitive skills including focus, alertness, problem-solving skills, and an overall appreciation for learning (Wilson & Harris, 2015). Howells (2012) used gratitude as part of effective pedagogy. If students enter a class with an attitude of complaint, their ability to think, concentrate, or integrate information is limited (Wilson, 2016). “In contrast, when students enter class with an attitude of gratitude, they are more engaged, focused, and motivated to exert effort toward learning” (Wilson, p. 4).

In a study of the impact of practicing gratitude on college students’ ability to focus and remain resilient when learning felt challenging (Wilson, 2016), the researcher found four themes emerged. The first theme was a positive shift in attitude. Next, students reported lower levels of stress. Building on the positive attitude and lower stress, students reported the ability to increase their focus on learning. Finally, by regularly engaging in gratitude practices, students were more motivated to exert effort toward learning, even when challenged. Although the themes developed separately, all four are related and build upon and extend the other themes (Wilson).

Emmons (2010) suggested that gratitude can have a transformative impact on people’s lives. Included in the reasons for the impact is that gratitude “magnifies positive emotions” (para. 14). Conversely, gratitude tends to block negative emotions, such as envy, resentment, and regret (para. 17). Grateful people are resistant to stress and can recover more quickly from trauma and adversity. Gratitude can provide perspective

through which people can better interpret negative life events. Finally, “grateful people have a higher sense of self-worth” (para. 20).

## Mindfulness

Mindfulness is a process of “developing awareness of the physiological and psychological changes that occurs within us” (Kamath, 2015, p. 415). Research indicates that mindfulness is related to positive states of mind and benefits the nervous and immune systems, as well as health behaviors including eating and sleeping (Greeson, Juberg, Maytan, James, & Rogers, 2014). “Mindfulness reduces distress, promotes optimal health, improves attentional control, mental agility, emotional intelligence, and situational awareness” (Heydenfeldt, Herkenhoff, & Coe, 2011, p. 21). Both compassion and gratitude are also considered qualities of mindfulness (Greeson et al.). A key element of mindfulness is that awareness remains nonjudgmental and unbiased (Goldhagen, Kingsolver, Stinnett, & Rosdahl, 2015; Heydenfeldt et al.).

Over the past 30 years, two schools of thought regarding mindfulness have emerged: one advanced by Langer and colleagues and the other developed by Kabat-Zinn and associates (Hart, Ivztan, & Hart, 2013). Langer’s (1993) definition of mindfulness involves drawing unique distinctions and examining information from new perspectives. Context of subject matter is considered critically important. Mindfulness is “an open, creative, probabilistic state of mind in which the individual might be led to finding differences among things thought similar and similarities among things thought different” (Langer, 1993, p. 44). Described as a “process of drawing novel distinctions” (Langer & Moldoveanu, 2000, p. 1), mindfulness works best when information is new and presented

as conditional rather than factual. Mindfulness is a state of mind in which participants are actively engaged in the present (Langer, 2000).

Langer (1993) compared and contrasted mindfulness with mindlessness. When in a state of mindlessness, people rely on routine and rules and act and react based on information from the past (Langer, 2000). One's behavior and thoughts are, in effect, predetermined when acting in a mindless manner. According to Langer (2000), mindlessness comes about when information is learned by repetition or when presented through single exposure. When one encounters something novel, the desire to truly comprehend the information can act as a catalyst to be mindful. Mindfulness results in an increase in competence, memory, creativity, and positive affect, and correspondingly, a decrease in stress (Langer, 2000).

Some early studies of mindfulness focused on the possible impact on health. One of the early studies focused, specifically, on aging and issues of control. Perceived control was shown to have positive effects on stress reduction (Langer, Janis, & Wolfer, 1975). More recent studies (Bhanji, Kim, & Delgado, 2016; Frazier et al., 2011) confirmed that perceived control can decrease the negative impact of stress. Langer and Moldoveanu (2000) pointed out that when a person behaves mindlessly, perceived control is not possible.

To increase mindfulness using Langer's construct, a number of researchers have experimented with brief mindfulness interventions. Such interventions attempt to induce a state of mindfulness through activities with instructions that force participants to be more mindful and to pay attention to the task at hand (Hart et al., 2013). As an example, in one study of mindfulness in math education, participants were provided conditional

instructions and asked to explore different possibilities and perspectives (Anglin, Pirson, & Langer, 2008). According to Hart et al., brief mindfulness intervention studies have resulted in improved trait mindfulness, cognitive performance, stronger learning skills, and prevention of social stereotyping. Carson and Langer (2006) explored the relationship between mindfulness and self-acceptance arguing that mindfulness can stop self-evaluation which helps lead to self-acceptance.

Hart et al. (2013) compiled a comparative review of the leading schools of thought in mindfulness research. The two primary strands of research belong, initially, to the works of Langer and Kabat-Zinn (Hart et al.) The earlier work began in the 1970's was conducted by Langer and colleagues and "explores mindfulness as a mental mode . . ." (Hart et al., p. 453). " . . . Langer's description of mindfulness is representative of Western thinking . . ." (Weick & Putnam, 2006, p. 280).

The second primary strand of research was initiated by Kabat-Zinn and colleagues, also in the 1970's (Hart et al., 2013). The concepts and approach to mindfulness in Kabat-Zinn's school of thought are rooted in Eastern thought with meditation as an integral component. Kabat-Zinn's (as cited by Hart et al.) approach is therapeutic in orientation and involves mindfulness meditation as an intervention for reduction of mental health issues. According to Kabat-Zinn (2003), a working definition of mindfulness is "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (p.145).

Shapiro, Schwartz, and Santerre (2005) identified 12 mindfulness qualities based on the work of Kabat-Zinn (1990) and Shapiro and Schwartz (2000). The first seven

qualities include: nonjudging, nonstriving, acceptance, patience, trust, openness, and letting go (Kabat-Zinn, 1990). The final five include gentleness, generosity, empathy, gratitude, and lovingkindness (Shapiro & Schwartz). Mindfulness is grounded in the idea of cultivating attention and focusing the mind, using the mindfulness qualities, may lead to better health (Shapiro, Schwartz, & Santerre).

Mindfulness training has been shown to reduce stress and improve academic performance in college students (Greeson et al., 2014). Mindfulness-based stress reduction training (MBSR) was developed by Kabat-Zinn and is a commonly used program in the United States. MBSR was developed in 1979 and offered through an outpatient stress reduction clinic at the University of Massachusetts Medical Center (Kabat-Zinn, 2003). Mindfulness practice has incorporated meditation with psychological principles to produce validated treatment programs. MBSR programs are designed “to prevent relapse in people who have recovered from depression, to develop techniques for managing pain, to manage stress, as a form of psychotherapy for eating disorders, and as a classroom tool . . . to focus attention” (Heydenfeldt et al., 2011, p. 23).

Research has demonstrated that meditation has a positive effect on both physical and psychological health (Kabat-Zinn, 2003; Murphy, 2006). Mindfulness meditation is a progressive meditation practice that is based on the idea of cultivating a non-judgmental focus on the current moment in time (Murphy). The practice of mindful meditation begins with a focus solely on one’s breath, the rising and falling. If attention wanders, the practitioner is taught to simply bring their mind back to focus. As the practice progresses, the focus widens to include other sensations such as sounds, smells, and touch. Finally, the focus extends to all that is happening in the present moment. By simply focusing on



the present, people learn to quit worrying about the past and cease being anxious about the future (Murphy).

Unlike many Eastern religion meditation practices, mindfulness meditation has no spiritual or religious language. Therefore, mindfulness meditation can be more broadly applied in secular or clinical settings. Mindful meditation can, further, be a complement to other treatment plans, such as individual counseling (Murphy, 2006). Murphy asserted mindful meditation is especially relevant for counseling of anxiety-related disorders. Because of the high-level of mental health distress on campuses, and the lack of resources for campus counseling and support services, mindfulness-based interventions could be an effective stop-gap treatment.

Although mindfulness meditation plays a key role in Kabat-Zinn's work, mediation is a practice, a means to an end. Meditation is a process to help develop individuals' mind to regulate their consciousness. The end is to practice mindfulness in a prolonged way throughout the day and life (Kabat-Zinn, 2003).

### Breathing

Building on the foundation of mindfulness and mindful mediation, another intervention, which can be complementary, is mindful breathing. When practicing mindful breathing, an individual focuses their attention on the inhalation and exhalation of breath. Continual refocusing of attention "heightens awareness of two critical concepts: (1) the mind has a propensity to wander and (2) the mind's wanderings correspond with emotional responses" (Britt, Pribesh, Hinton-Johnson, & Gupta, 2018). Mindful breathing, when used as a cognitive practice, can help individuals recognize and more effectively respond to early indicators of anxiety (Britt et al.).

Neuroscientist face major challenges in understanding the autonomic nervous system (ANS) and the other physiological changes associated with emotions and emotional reactions. Understanding the ANS and the related changes is a critical and foundational step towards the treatment of anxiety, stress, and other emotional disorders. Although originating in the brain, the experience of emotion is felt throughout the entire body (Jerath, Crawford, Barnes, & Harden, 2015). In a review of research related to autonomic nervous system activity and emotion (Kreibig, 2010), the author noted that the human heart rate is increased when experiencing negative emotions such as anger, anxiety, embarrassment, and fear. Reports on anxiety indicate activation of the sympathetic nervous system (SNS) and induces faster and shallower breathing, which is controlled by the respiratory system (Kreibig). The SNS is part of the ANS and prepares the body for stressful or emergency situations. The SNS increases heart rate and causes the body to release stored energy and is responsible for the fight or flight reaction (Low, 2017). Research clearly links emotions, such as anxiety, with physiological changes in the body (Jerath et al.).

Because such a strong link exists between emotion and, specifically, the respiratory and SNS, researchers and physicians have explored non-pharmaceutical therapies to address the problems without the corresponding side effects of some medications. Individuals have the ability to alter their emotional state by controlling their breathing and their mindset (Jerath et al., 2015). “Controlled respiration is one of the oldest and certainly the single, most efficient acute intervention for the mitigation and treatment of excessive stress” (Everly & Lating, 2013, p. 223).

Controlled breathing has been used for thousands of years to help reduce anxiety and produce an overall state of relaxation. References to using breath control have been found in ancient Hindu traditions and has been a part of yogic practices for centuries. Practiced both in Indian Hindu traditions and Chinese T'ai Chi, breath control is an essential part of these arts (Everly & Lating, 2013). Although practiced throughout history in ancient cultures, controlled breathing has not yet gained wide-spread acceptance in Western medicine; however, popularity is increasing (Jerath et al., 2015).

Everly and Lating (2013) described three types of breathing: clavicular, thoracic, and diaphragmatic. Diaphragmatic breath represents the deepest level of all three types of breathing and is used effectively in breath control exercises (Everly & Lating). Diaphragmatic breathing is a “technique that uses the contraction of the diaphragm muscle to move air downward into the body, which increases . . . breathing efficiency and facilitates more efficient exhalation” (Chen, Huang, Chien, & Cheng, 2017, p. 329). Diaphragmatic breathing relaxation (DBR) exercises have been effective at reducing the symptoms of anxiety (Chen et al.). Anxiety activates the SNS triggering shallow, rapid breathing, elevated heart rate and tense muscles. However, DBR alternatively stimulates the parasympathetic nervous system (PNS) (Chen et al.). The PNS controls functioning during ordinary circumstances and helps slow heart rate and decrease blood pressure (Low, 2017). Therefore, DBR can offset the physiological impact of anxiety.

Research has shown a positive association between breath control exercises, such as DBR and other deep breathing methods, and reduced anxiety levels (Britt et al, 2018; Chen et al., 2017; Cho, Ryu, Noh, & Lee, 2016). Jerath et al. (2015) proposed that slow, deep breathing exercises can “shift sympathetic dominance to parasympathetic

dominance” (p. 112). Given the increasing rates of anxiety, especially in college age students and other emerging adults, breathing techniques are simple, easy, and cost-effective and do not pose side effect risks associated with pharmaceutical interventions (Jerath et al.).

### Conclusion

Universities are struggling as the economic and socio-demographic factors are rapidly changing. As college enrollment declines, the temptation is to increase tuition rates. The upcoming student cohort, Gen Z, is debt-averse and therefore may prove unwilling to simply pay higher tuition, opting for online massive open online courses (MOOC), certificate programs, or community college courses. On the other hand, Gen Z does believe that a college education is valuable and indicates an intention to attend college, specifically for job preparation. Gen Z also represents the largest generational group in the U. S., thereby providing opportunities for college and university recruitment. As incoming college freshmen, Gen Z members are reporting high levels of mental illness and need support through university resources. Given the financial resource limitations faced by most colleges and universities, the development of preventative mental health interventions is prudent. Research has shown that classroom interventions designed to increase resilience have had a positive impact on depression and anxiety symptoms. Focusing time and energy on development of classroom and curricular interventions can serve to both help students achieve academic and life success, as well as improve the financial results of the university.

## Summary

The review of literature focused on the relevant trends in higher education and the characteristics of the most recent generational cohort to enter college, Gen Z. The review also included an examination of the significance of mental health problems and the significant impact on college students. Resilience, as a characteristic and process, was reviewed as an important tool to help decrease the impact of, especially, depression and anxiety on student well-being. Finally, the review considered different types of interventions that can be employed to increase resilience and psychological well-being. The primary focus institutions of the literature reviewed are public or large private universities. The current study was conducted at a small, private, faith-based university. The current study contributed to a gap of institution-type in the literature. The design of the current study was developed on the foundation of the literature review and was used to determine the impact of a wellness intervention, incorporating gratitude, mindfulness, and controlled breathing, on resilience, depression, and anxiety at the researcher's institution.

## CHAPTER III

### METHODOLOGY

#### Introduction

University students are identified as an at-risk population for mental health issues for two separate, but important, reasons. First, the transition to university life often entails new social, emotional, and academic demands, which can cause increased levels of psychological stress (Wynaden et al., 2013). The age at which many young adults enter university life coincides with the age of onset for a number of mental health disorders, such as anxiety and depression (Kessler et al., 2007). Mental health disorders in college students appear to be increasing both in severity and overall numbers (Hunt & Eisenberg, 2010). According to the Center for Collegiate Mental Health (2016), the average use of university counseling centers has grown by 30%, while average enrollment growth is only 5%. Due to the increased need, universities are under pressure to provide expanded mental health services for students but are struggling to find additional funding in already tight budgets. Student and parent expectations of college affordability put pressure on universities to control tuition increases, which, in turn, results in the need for universities to control or decrease expenses to maintain positive net assets (Matsumori et al., 2018; Reilly, 2018; Simon, 2017).

Research has shown that increased resilience can help students decrease stress and can positively impact mental health (First et al., 2017; Leppin et al., 2014; Shatkin et al.,

2016). Kamath (2015) emphasized that universities can develop primary interventions by training students in resilience in order to help reduce or prevent mental health issues. To that end, the researcher created a research design to examine the impact of wellness training on college students' levels of resilience, depression, and anxiety.

The current study sought to answer the following research questions:

Research Question 1. What is the impact of wellness training on the overall resilience level in college age students?

Research Question 2. What is the impact of wellness training on the depression levels in college age students?

Research Question 3. What is the impact of wellness training on the anxiety levels in college age students?

The current study utilized wellness training designed to teach students core skills and practices of resilience, in order to increase student resilience levels. As resilience increases, students may find negative outcomes associated with depression and anxiety decrease. By improving resilience and reducing depression and anxiety, students' overall wellbeing may increase. If effective, wellness training could be deployed in a variety of settings throughout the university. In this chapter, the researcher describes the research design, participants, data collection, analytical methods, and study limitations.

### Research Design

The research design provides the structure and procedures used for data collection and the analysis employed to answer the research questions (Leedy & Ormrod, 2016).

The current study design was a nonrandomized control-group pretest-posttest design.

True experimental designs include randomized assignment of participants to groups,

thereby, helping guarantee that differences between groups are likely small and entirely due to chance (Leedy & Ormrod). Because random assignment in the current study was impractical, a quasi-experimental approach was utilized. Like true experimental designs, quasi-experimental designs also focus on cause-and-effect, but such studies include preassigned groups (Salkind, 2017). To help increase internal validity, the current study utilized a pretest posttest design. Using a pretest can confirm that the two groups are similar in terms of the dependent variable under investigation. If, after one group takes part in the treatment, the researcher then finds a difference in results, a reasonable conclusion can be made that the differences are an outcome of the treatment (Leedy & Ormrod).

The current study was conducted during an eight-week required, freshmen seminar course. The course sections met for one hour, twice a week, on Mondays and Wednesdays. The students were divided into six different course sections of 14 to 15 students per section, for a total of 88 students. Three sections, which included 44 students, were designated as a control group and the three other sections, also including 44 students, were designated as a treatment group. Students were assigned to the course sections by the director of New Student Orientation. The assignment of course sections to either the control or treatment group was based on instructors' participation and training for the wellness training intervention.

On the first day of the course, a pretest was administered as a baseline measurement for analysis. The pretest was administered to all students in attendance during that course session. During the remainder of the course, the control group sections participated in the customary freshmen seminar course curriculum. On Mondays, the



three treatment group sections also participated in the customary freshmen seminar course activities. On Wednesdays, the treatment groups participated in one-hour wellness training sessions. After eight weeks, a posttest was administered to all six course sections during the last week of the course. The posttest was administered to all students in attendance during the assigned course session.

The wellness training was developed by the university wellness director. The training was designed specifically for deployment in the current study. The training intervention was developed using research-based practices found to increase resilience. Over the course of the eight sessions, the students were introduced to three main practices: gratitude, mindfulness, and mindful breathing. The curriculum included information about the supporting research for each area. The course facilitators also taught specific behaviors designed to help incorporate the resilience practices into the students' everyday life.

The pretest survey instrument, shown in Appendix B, includes three sections. Sections A and B include two previously validated and reliable survey tools, the Connor Davidson Resilience Scale (CD-RISC) and the Depression Anxiety Stress Scale 21 (DASS 21), respectively. The CD-RISC and the DASS-21 are self-rated, Likert-type scaled instruments. Likert scale statements simplify and more easily quantify attitudes and when self-rated can allow efficient collection of data (Leedy & Ormrod, 2016).

In Part C of the pretest, the researcher included five demographic questions. The demographic questions included instructor name, academic major, type of high school attended, participation in collegiate athletics, and current living arrangements. The demographic questions were included for screening purposes and institutional data.

Two posttests survey instruments were developed to accommodate different open-ended questions based on participation in either the control group or the treatment group. The control group posttest is shown in Appendix C and the treatment group posttest is included as Appendix D. Parts A and B are identical on both surveys. Part A includes the CD-RISC and Part B includes the DASS 21.

Part C on the control group posttest included three open-ended questions. The questions were used, primarily, for institutional data purposes. All three questions focused on the students' experiences in freshmen seminar and suggestions for improvement. Part D of the control group posttest included demographic questions identical to the pretest.

Part C on the treatment group posttest included six open-ended questions. The first three questions were identical to the control group posttest. The results of which were used primarily for institutional data purposes. The last three questions were focused on the wellness training conducted as part of the treatment groups' course. These questions provided qualitative information which was used to supplement the quantitative analytical results. The researcher incorporated qualitative feedback into the research report by conducting thematic analysis of the open-ended question responses, identifying the key themes and emphasizing valuable respondent information. Part D of the treatment group posttest included demographic questions identical to the pretest and control group posttest.

#### Research Question One

To answer research question one, the researcher compared the results of the pretests and posttest scores on the CD-RISC, included as Part A of the surveys. The CD-

RISC is a self-rated measure of resilience that has sound psychometric properties (Connor & Davidson, 2003). The researcher obtained permission to use the CD-RISC from the authors of the instrument (Appendix A). Connor and Davidson administered the scale to subjects in the following groups: community sample (Group 1,  $n=577$ ), primary care outpatients (Group 2,  $n=139$ ), general psychiatric outpatients (Group 3,  $n=43$ ), clinical trial of generalized anxiety disorder (Group 4,  $n=25$ ), and two clinical trials of post-traumatic stress disorder (PTSD) (Group 5,  $n=22$ ; Group 6,  $n=22$ ). Regarding validity, Connor and Davidson reported, for internal consistency, Cronbach's  $\alpha$  of .89 for the general population group ( $n=577$ ). The item total correlations ranged from .30 to .70 (Connor & Davidson, p. 79).

Test-retest reliability was assessed from the clinical trials of Group 4 and Group 6. The mean ( $SD$ ) scores at Time 1 [52.7 (17.90)] and Time 2 [52.8 (19.9)] demonstrated a high-level of agreement, with an intraclass correlation coefficient of 0.87.

The researchers tested validity using other previously validated resilience scales. According to Connor and Davidson (2003), the results are as follows:

CD-RISC scores were positively correlated with the Kobasa hardiness measure in psychiatric outpatients (Group 3,  $n=30$ ; Pearson  $r = 0.83$ ,  $P<.0001$ ). Compared to the Perceived Stress Scale (PSS-10), the CD-RISC showed a significant negative correlation (Group 3,  $n=24$ ; Pearson  $r = -0.76$ ,  $P<.001$ ), indicating higher levels of resilience correspond with less perceived stress. The Sheehan Stress Vulnerability Scale (SVS) was similarly negative correlated with the CD-RISC (Spearman  $r = -0.32$ ,  $P<.0001$ ) in 591 subjects from the combined sample. (p. 79)

The CD-RISC consists of 25 items on a 5-point Likert scale ranging from 0 (*not true at all*) to 4 (*true nearly all the time*). Students are asked to indicate the response that best indicates agreement as to how the item applied over the last month. Higher overall scores indicate higher levels of resilience.

#### Research Question Two

Research questions two and three focused on depression and anxiety, respectively. To measure the levels of these negative emotions, the researcher used a shorter version of the DASS. Both the original 42-item DASS and the shortened DASS-21 are open-source instruments and available for use without charge or separate permissions. The original DASS is a 42-item self-administered questionnaire designed to measure the magnitude of three negative emotional states: depression, anxiety, and stress. “The DASS-Depression focuses on reports of low mood, motivation, and self-esteem, DASS-anxiety on physiological arousal, perceived panic, and fear, and DASS-stress on tension and irritability” (Parkitny & McAuley, 2010, p. 204). “Internal consistency for each of the subscales of the 42-item version of the questionnaire are typically high (e.g. Cronbach’s  $\alpha$  of 0.96 to 0.97 for DASS-Depression, 0.84 to 0.92 for DASS-Anxiety, and 0.90 to 0.95 for DASS-Stress)” (Parkitny & McAuley, p. 204).

Lovibond and Lovibond (1995) tested the DASS validity using other validated and widely used instruments, specifically, for depression, the BDI, and for anxiety, the BAI. According to Lovibond and Lovibond (1995), the DASS was designed for assessing emotional states in normal emotional state samples, wherein, the BDI and BAI were designed for clinical emotional states use. The DASS Anxiety scale and the BAI were highly correlated ( $r = 0.81$ ), while the DASS Depression scale and the BDI were less

strongly correlated ( $r = 0.74$ ). According to Lovibond and Lovibond (1995), the primary reason for the lower correlation between the DASS Depression scale and the BDI appeared to be the inclusion in the BDI of several items which are not strongly or uniquely related to depression.

The original DASS consists of 42 items on a 4-point Likert scale ranging from 0 (*does not apply to me at all*) to 3 (*applied to me very much, or most of the time*). Students are asked to indicate the response that best indicates agreement as to how the item applied over the last week. Higher overall scores indicate higher levels of negative emotion.

To accommodate the need for a brief survey for use in testing situations, a half-length version of the DASS was developed, referred to as the DASS 21. The 21 items selected represent all three subscales and those scale scores can be easily converted to full scale DASS scores by multiplying each subscale score by two (Lovibond & Lovibond, 1996). The DASS 21 was used in the current study to compute depression and anxiety scores.

To answer research question two, the researcher compared the results of the depression subscale from the pretests and posttest scores on the DASS 21, included as Part B of the surveys. To compute overall depression scores, the responses to DASS 21 questions 3, 5, 10, 13, 16, 17, and 21 were used. Higher overall scores indicate higher levels of depression.

#### Research Question Three

To answer research question three, the researcher compared the results of the anxiety subscale from the pretests and posttest scores on the DASS 21, included as Part B

of the surveys. To compute overall anxiety scores, the responses to DASS 21 questions 2, 4, 7, 9, 15, 19, and 20 were used. Higher overall scores indicate higher levels of anxiety.

### Participants

The population for the current study consisted of first year, traditional age college students attending four-year universities. The sample included 88 first-year students attending a small, Christian, Midwestern university enrolled in a required freshmen seminar course. Of the 88 student sample, only 73 students were in attendance on both the pretest and posttest day during the study. Only the data from the students who completed both the pretest and posttest are included in the analysis. For the control group, 35 students completed both the pretest and posttest; for the treatment group 38 students completed both surveys.

The participants represented a wide range of majors. Declared majors included: Athletic Training, Biology, Business, Criminal Justice, Education, English, Graphic Design, Intercultural Studies, Kinesiology, Marketing, Math, Ministry, Music, Nursing, Physical Education, Psychology, Sports Management and Theater. A few participants had yet to decide on a major and, therefore, listed their major as undecided. Of the 73 participants, 54 (73.97%) attended public high school, 12 (16.44%) attended a private high school, 6 (8.22%) were home schooled, and 1 (1.37%) attended some combination of the three types of schools. Comparative information concerning type of high school attended between the control and treatment group is presented in Table 1. Of the 73 participants, 36 (49.32%) students identified as collegiate athletes currently participating on a university team. Comparative information concerning participants in collegiate athletics between the control and treatment group is presented in Table 2. Finally, 65

(89.04%) of the 73 participants were living in on campus housing during the study.

Comparative information concerning current living arrangements between the control and treatment groups is presented in Table 3.

Table 1

*Comparative Percentage of Students by Type of High School Attended*

| Type of High School | Control Group<br>( <i>n</i> = 35) | Treatment Group<br>( <i>n</i> = 38) | Total by Type<br>( <i>n</i> = 73) |
|---------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| Public              | 82.86                             | 65.79                               | 73.97                             |
| Private             | 5.71                              | 26.32                               | 16.44                             |
| Home School         | 8.57                              | 7.89                                | 8.22                              |
| More than one Type  | 2.86                              |                                     | 1.37                              |
| Total               | 100.00                            | 100.00                              | 100.00                            |

Table 2

*Comparative Percentage of Students by Participation in Collegiate Athletics*

| Participation in<br>Collegiate Athletics | Control Group<br>( <i>n</i> = 35) | Treatment Group<br>( <i>n</i> = 38) | Total by<br>Participation<br>( <i>n</i> = 73) |
|------------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------------------|
| Yes                                      | 51.43                             | 50.00                               | 50.68                                         |
| No                                       | 48.57                             | 50.00                               | 49.32                                         |
| Total                                    | 100.00                            | 100.00                              | 100.00                                        |

Table 3

*Comparative Percentage of Students by Current Living Arrangement*

| Current Living Arrangement | Control Group<br>( <i>n</i> = 35) | Treatment Group<br>( <i>n</i> = 38) | Total by Living Arrangement<br>( <i>n</i> = 73) |
|----------------------------|-----------------------------------|-------------------------------------|-------------------------------------------------|
| On Campus                  | 91.43                             | 86.84                               | 89.04                                           |
| Off Campus                 | 8.57                              | 13.16                               | 10.96                                           |
| Total                      | 100.00                            | 100.00                              | 100.00                                          |

## Data Collection

## Pretest

Instructors in all six sections of the study course sections administered the pretest on the first day of the freshmen seminar course in the fall of 2018. Each student received an Informed Consent form and a survey packet. The survey packet included a cover sheet for the student to write their name along with a prefilled random number generated by the researcher. The random number was also included at the bottom of the first page of the survey. Because of the sensitive nature of the survey content, specifically, depression and anxiety, the random number was included to preserve confidentiality of the student from the researcher. The cover sheet was attached to the pretest packet, included as Appendix B. The instructors read a set of instructions (Appendix E) prepared by the researcher to ensure consistent information was provided in all course sections. The survey instructions included the purpose of the study, instructions for completion and information about analysis of the results.

The students were given approximately 20 minutes to complete the survey. As the students completed the survey, the course instructor collected the Informed Consent forms and the survey packets. The instructor separated the survey packet cover sheet



from the remainder of the survey, including Sections A – C. The survey packet cover sheet was separated from the survey instrument in order to protect the confidentiality of the participant from the researcher, as outlined in the informed consent. The survey packet cover sheets were placed in an envelope, sealed, and forwarded to a university psychologist or licensed counselor. The remainder of the surveys were placed in a separate envelope and forwarded to the researcher, along with the Informed Consent forms, sealed in a third envelope.

After students in both the control and treatment groups completed the pretest, the researcher computed the resilience, depression, and anxiety subscale scores for each individual survey. Because of the sensitive nature of depression and anxiety, the subscale scores were computed and tracked separately. If the survey results indicated severe or extremely severe levels of depression or anxiety, as defined by Lovibond and Lovibond (1996), the researcher forwarded the random number code from the survey to the university psychologist or licensed counselor. At that time, the psychologist or counselor would match the random number from the survey to the name on the survey cover sheet. Then, confidential contact would be initiated with the student informing the student of the concerning score and offering a variety of university services. The student could then choose to take advantage of the services or decline to respond.

#### Posttest

Instructors in both the control and treatment course sections administered the posttest during the last week of the course in the fall of 2018. Each student received an Informed Consent form and a survey packet. The survey packet included a cover sheet for the student to write their name along with a prefilled random number generated by the

researcher. The random number was also included at the bottom of the first page of the survey. Because of the sensitive nature of the survey content, specifically, depression and anxiety, the random number was included to preserve confidentiality of the student from the researcher. Both the control group and the treatment group posttests are included as Appendix C and D, respectively. The instructors read a set of instructions (Appendix F) prepared by the researcher to ensure consistent information was provided in all course sections. The survey instructions included the purpose of the study, instructions for completion and information about analysis of the results.

The students were given approximately 20 minutes to complete the survey. As the students completed the survey, the course instructor collected the Informed Consent forms and the survey packets. The instructor separated the survey packet cover sheet from the remainder of the survey, including Sections A – D. The survey packet cover sheets were placed in an envelope, sealed, and forwarded to a university psychologist or licensed counselor. The remainder of the surveys were placed in a separate envelope and forwarded to the researcher, along with the Informed Consent forms, sealed in a third envelope.

After all participants completed the posttest, the instructors read a debriefing statement prepared by the researcher. The debriefing statement thanked the students for their participation and explained the full nature of the study and the name of the primary researcher. Contact information was provided for future reference. A copy of the debriefing statement is included as Appendix G.

Upon receipt of the completed posttests, the researcher computed depression and anxiety subscale scores for each individual survey. If the survey results indicated severe

or extremely severe levels of depression or anxiety, as defined by Lovibond and Lovibond (1996), the researcher forwarded the random number code from the survey to the university psychologist or licensed counselor. At that time, the psychologist or counselor would match the random number from the survey to the name on the survey cover sheet. Then, confidential contact would be initiated with the student informing the student of the concerning score and offering a variety of university services. The student could then choose to take advantage of the services or decline to respond.

### Analytical Methods

The researcher used various statistical methods to analyze the data collected for the current study. The research design allowed the researcher to perform the same statistical analysis to answer each research question. Descriptive statistics were useful for organizing and describing the characteristics of the sample data set. A mixed factorial ANOVA was used to compute differences within and between groups, as well as testing for an interaction effect between the independent variables.

A mixed factorial ANOVA, also referred to as the one-between-one-within subjects ANOVA, is used when two independent variables are evaluated on a dependent variable of interest. In the analysis, one of the independent variables is a between subjects factor and the other independent variable is a within subjects factor (Yockey, 2018). In the current study, the within subjects independent variable is time (pretest versus posttest). The between subjects independent variable is the wellness training (treatment versus control). Any differences in results from the within subjects variable and the between subjects variable is considered a main effect. The one-between-one-within ANOVA also tests for a third phenomenon, the interaction effect. The interaction effect

tests the interaction of the two independent variables. The interaction effect indicates that a third variable influences the relationship between an independent and a dependent variable (Frost, n.d.). In the current study, the interaction effect is testing the interaction between time and treatment, the two independent variables.

Analysis of data for research question one involved conducting a mixed factorial ANOVA using time and the wellness training as the independent variables and overall resilience level as the dependent variable. The main effect of time compared the resilience level pretest and posttest results. The main effect of the wellness training compared the resilience level of the treatment group to the control group results. Finally, the interaction effect tested the interaction between time and treatment to explore whether the treatment group's overall resilience level changed more over time than the control group's resilience level.

The analysis of data for research question two involved conducting a mixed factorial ANOVA using time and the wellness training as the independent variables and overall depression score as the dependent variable. The main effect of time compared the depression level pretest and posttest results. The main effect of the wellness training compared the depression level of the treatment group to the control group results. Finally, the interaction effect tested the interaction between time and treatment to explore whether the treatment group's overall depression score changed more over time than the control group's depression score.

The analysis of data for research question three involved conducting a mixed factorial ANOVA using time and the wellness training as the independent variables and overall anxiety score as the dependent variable. The main effect of time compared the

anxiety level pretest and posttest results. The main effect of the wellness training compared the anxiety level of the treatment group to the control group results. Finally, the interaction effect tested the interaction between time and treatment to explore whether the treatment group's overall anxiety score changed more over time than the control group's anxiety score.

The open-ended questions on the treatment group posttest provided qualitative data to supplement the quantitative data, specifically on the helpfulness of the wellness training. Analysis of the qualitative data included content analysis of the open-ended text to identify themes, experiences, and reactions to the wellness training by the participants. The results of the qualitative analysis are integrated into the study to provide information about the wellness training treatment and participants' views on the effectiveness of the skills and content presented.

### Limitations

The researcher identified three limitations to the current study. The first limitation concerns the potential impact on study results due to the students' transition to their first year of college. As identified in the literature review, college students are an at-risk population for mental health issues (Wynaden et al., 2013) and transition to college life can create additional stressors among new students with preexisting mental illness (Eagan et al., 2017). Further, according to Mills and Mehaffy (2016), the first-year experience for many students is a "pretty dismal experience" (p. 57). These researchers support that transition issues abound during a student's first year of college. Salkind (2017) defines maturation as "changes over time, often caused by biological or psychological forces. These changes might overshadow those that are the result of a treatment" (p. 175). The

changes associated with the transition to college life, especially during the first semester, are a difficult time for many first-year students and these maturation issues could impact the internal validity of the current study.

A second limitation relates to the delivery logistics and modality of the wellness training. In the current study, the intervention included only eight, 45-minute sessions, conducted by two faculty members and the university wellness director. Neither the two faculty members nor the wellness director were the primary course instructors. Further, the designated course was a freshmen seminar course. The course is designated as a pass-fail course which, generally, students do not consider as an important academic course. The freshmen seminar course syllabus dictated that the intervention faculty and wellness director could not require homework, effectively eliminating required practice of resilience building techniques outside the classroom. When taken together, all these factors could impact the effectiveness of the intervention as deployed in the current study.

As a final limitation, the current study was conducted at a small, Christian, Midwestern university. Therefore, the results and recommendations may not be generalizable to all universities.

### Summary

To determine the potential impact of a wellness intervention on student resilience, depression, and anxiety, the researcher conducted a quantitative study with limited supplemental qualitative information. The quasi-experimental approach allows the researcher to make cause and effect examinations. The results of the data collection process and statistical analysis are reported in Chapter IV. The researcher also explored

conclusions, implications for university faculty and staff and offers recommendations for future research.

## CHAPTER IV

### FINDINGS AND CONCLUSIONS

#### Introduction

The current study investigated the impact of wellness training on student resilience, depression, and anxiety. In this chapter, the researcher reviewed the research questions and provided a summary of the methods utilized to answer the questions. The researcher, then, reported the results of the data collection and analysis, along with the conclusions based on the findings. Drawing from the findings and conclusions, the researcher provided implications for university faculty and staff, as well as, proposed areas for further research.

Evidence suggests that number of college students experiencing mental health disorders is increasing (Hunt & Eisenberg, 2010). As a result, the demand for university counseling centers has grown by approximately 30%, while university enrollment growth has hovered around 5% for the same time period (Center for Collegiate Mental Health, 2016). The need for increased funding for campus counseling centers comes at a time when university administrators face pressure to reduce expenses wherever possible due to the fact that overall expense growth is outpacing corresponding revenue growth (Fain, 2017). Because of the pressure to reduce expenses, university administrators seek comprehensive, yet cost effective, interventions to assist students struggling with mental health disorders. The development of resilience, as an asset or trait, shows promise as a



way to help students better cope with mental health disorders. Research supports that increasing levels of resilience can help lower mental health disorders (Ahmed & Julius, 2015; Hartley, 2012). Studies also show that resilience can be developed through targeted curriculum-based interventions (First et al., 2017; Ramasubramanian, 2017; Shatkin et al., 2016). The undertaking of the current study was important to help bridge the gap between the needs of college students and the pressure on financial resources available to address the needs.

### Research Questions

The purpose of the current study was to explore the impact of wellness training on resilience, depression, and anxiety in college age students in order to determine the effectiveness of the intervention in improving resilience and reducing the level of depression and anxiety thereby increasing student wellbeing. The following research questions guided the study:

Research Question 1. What is the impact of wellness training on the overall resilience level in college age students?

Research Question 2. What is the impact of wellness training on depression levels in college age students?

Research Question 3. What is the impact of wellness training on anxiety levels in college age students?

### Research Methods

To answer the study's research questions, the researcher conducted a nonrandomized control-group pretest-posttest design. The study was completed during an eight-week freshmen seminar course. The students were divided into six, separate course

sections, with three sections designated as a treatment group and three sections as a control group.

The researcher utilized two previously validated surveys: the CD-RISC for measuring overall resilience, and the DASS-21 for measuring depression and anxiety levels. The researcher also included open-ended questions and demographic information in the survey packet. The pretest was administered on the first day of the course to all study participants in attendance that day. Over the following eight weeks, in addition to standard freshmen seminar curriculum, the treatment group participated in wellness training delivered by two trained faculty members and one university wellness professional. At the end of the eight weeks, a posttest was administered to all study participants in attendance in the final class session. To answer the research questions, pretest and posttest scores on each instrument were compared and statistical analysis completed. The results are included in the following section of the chapter.

## Findings

### Research Question One

What is the impact of wellness training on the overall resilience level of college age students? Overall resilience scores were computed using the CD-RISC. The CD-RISC is a 25 item, self-rated tool used to provide an overall measure of individual resilience. The result of each item's response is summed to compute the total resilience score with higher numbers indicating higher levels of resilience. The researcher used both time and wellness training as the independent variables, comparing the results on the dependent variable, overall resilience level.

A mixed factorial ANOVA was conducted to assess the impact of wellness training on the students' overall resilience level. The within-subjects factor was time (pretest vs. posttest) and the between-subjects factor was wellness training (treatment vs. control). The results showed a statistically significant main effect for time,  $F(1, 70) = 9.213, p = .003$ , partial  $\eta^2 = .116$ , indicating a statistically significant difference between pretest resilience score and posttest resilience score. Regarding the effect size of the result, 11.6% of the difference in the resilience scores could be accounted for by the passage of time.

The results indicated no statistically significant difference between the resilience scores of the treatment and control groups,  $F(1, 70) = .914, p = .342$ , partial  $\eta^2 = .013$ . Further, the results indicated no statistically significant interaction effect between time and treatment,  $F(1, 70) = 1.345, p = .250$ , partial  $\eta^2 = .019$ . Means and standard deviations for treatment and control groups at both the pretest and posttest are reported in Table 4.

Table 4

*Means and Standard Deviations for Overall Resilience Scores Pretest and Posttest*

| Time     | Wellness Training |           | No Wellness Training |           |
|----------|-------------------|-----------|----------------------|-----------|
|          | <i>M</i>          | <i>SD</i> | <i>M</i>             | <i>SD</i> |
| Pretest  | 72.82             | 13.86     | 74.59                | 12.61     |
| Posttest | 68.47             | 14.32     | 72.64                | 14.61     |

#### Research Question Two

What is the impact of wellness training on depression levels in college age students? Depression scores were computed using the DASS 21. To compute the depression scores, the responses to DASS 21 questions 3, 5, 10, 13, 16, 17, and 21 were

summed with higher scores indicating higher levels of depression. The researcher used both time and wellness training as the independent variables, comparing the results on the dependent variable, overall depression score.

A mixed factorial ANOVA was conducted to assess the impact of wellness training on the students' depression level. The within-subjects factor was time (pretest vs. posttest) and the between-subjects factor was wellness training (treatment vs. control). The results showed a statistically significant main effect for time,  $F(1, 66) = 9.686, p = .003$ , partial  $\eta^2 = .128$ , indicating a significant difference between pretest depression scores and posttest depression scores. Regarding the effect size of the result, 12.8% of the difference in depression scores could be accounted for by the passage of time.

The results indicated no statistically significant difference between the depression scores of the treatment and control groups,  $F(1, 66) = .195, p = .660$ , partial  $\eta^2 = .003$ . Further, the results indicated no statistically significant interaction effect between time and treatment,  $F(1, 66) = .003, p = .955$ , partial  $\eta^2 = .000$ . Means and standard deviations for depression scores for the treatment and control groups at both the pretest and posttest are reported in Table 5.

Table 5

*Means and Standard Deviations for Depression Scores Pretest and Posttest*

|          | Wellness Training |           | No Wellness Training |           |
|----------|-------------------|-----------|----------------------|-----------|
|          | <i>M</i>          | <i>SD</i> | <i>M</i>             | <i>SD</i> |
| Pretest  | 4.61              | 6.71      | 3.94                 | 5.09      |
| Posttest | 7.33              | 10.09     | 6.56                 | 7.37      |

### Research Question Three

What is the impact of wellness training on anxiety levels in college age students?

Anxiety scores were computed using the DASS 21. To compute the anxiety scores, the responses to DASS 21 questions 2, 4, 7, 9, 15, 19, and 20 were summed with higher scores indicating higher levels of anxiety. The researcher used both time and wellness training as the independent variables, comparing the results on the dependent variable, overall anxiety score.

A mixed factorial ANOVA was conducted to assess the impact of wellness training on the students' anxiety level. The within-subjects factor was time (pretest vs. posttest) and the between-subjects factor was wellness training (treatment vs. control). The results showed no statistically significant main effect for time,  $F(1, 64) = .548, p = .462$ , partial  $\eta^2 = .008$ , indicating no statistically significant difference between pretest anxiety scores and posttest anxiety scores. The results further indicated no statistically significant difference between the anxiety scores of the treatment and control groups,  $F(1, 64) = .420, p = .519$ , partial  $\eta^2 = .007$ . Finally, the results indicated no statistically significant interaction effect between time and treatment,  $F(1, 64) = .006, p = .941$ , partial  $\eta^2 = .000$ . Means and standard deviations for anxiety scores for the treatment and control groups at both the pretest and posttest are reported in Table 6.

Table 6

*Means and Standard Deviations for Anxiety Scores Pretest and Posttest*

| Time     | Wellness Training |           | No Wellness Training |           |
|----------|-------------------|-----------|----------------------|-----------|
|          | <i>M</i>          | <i>SD</i> | <i>M</i>             | <i>SD</i> |
| Pretest  | 8.41              | 10.67     | 7.00                 | 6.58      |
| Posttest | 9.18              | 12.35     | 7.63                 | 9.43      |

## Additional Findings

As evidenced from the results of the analysis, no statistically significant difference was found between the treatment and control groups on measures of resilience, depression, or anxiety. The results indicating that the intervention was not effective given the parameters of the study. However, the researcher analyzed the qualitative data included on the treatment group posttests to identify any trends concerning specific course information or practices that the students found helpful when incorporated into their daily lives.

Of the practices utilized in the wellness training, the breathing practices were identified by students as a helpful practice. In response to the question “What practices and ideas, coming from the training, did you find most helpful?”, 18 of 36 (50.00%) of participants listed breathing as a response. In response to the question “Did you use any of the suggested practices in your every-day life outside of the course?”, 11 of 36 (30.55%) participants listed breathing exercises as a response. The specific questions with all responses are included in Appendix H.

## Conclusions

The purpose of the current study was to explore the impact of wellness training on resilience, depression, and anxiety in college age students in order to determine the effectiveness of the of the intervention in improving resilience and reducing the level of depression and anxiety thereby increasing student wellbeing. Overall, the results of the current study revealed that the wellness training was not effective in improving resilience or reducing depression and anxiety in this setting.

### Resilience

The current study found a statistically significant change in resilience scores, for both the treatment and control groups, between the pretest and posttest. Notably, in both groups, the resilience score decreased over the eight-week period. The results of the study indicate no statistically significant difference in the mean scores between the treatment and control groups which indicates, in effect, the wellness training did not make a statistically significant impact on the treatment group's change in resilience score. Further, the resulting interaction of the two independent variables indicate that neither groups' resilience score decreased more over time than the other.

The current study results are inconsistent with previous studies' findings regarding the efficacy of focused curricular interventions on resilience. Turner et al. (2017) noted that resilience is a skill which can be developed through university curriculum designed to build student resources critical for resilience. In a study completed by Steinhardt and Dolbier (2008), students that participated in four two-hour classroom sessions, focused on resilience education, were found to have greater resilience and more effective coping strategies after the intervention as compared to the control

group. Shatkin et al. (2016) conducted an experiment comparing outcomes of students participating in a two-semester risk and resilience course and a control group of students in an alternate major related course. Relative to the control group, the student participating in the risk and resilience course reported improvements in coping with stress, which can lead to enhanced mental health.

### Depression

The current study found a statistically significant change in depression scores, for both the treatment and control groups, between the pretest and posttest. It should be noted that the depression score increased over the eight-week period in both the treatment and control group. The results of the study indicated no statistically significant difference in the mean depression scores between the treatment and control groups which indicates, in effect, the wellness training did not make a statistically significant impact on the treatment group's change in depression score. Further, the resulting interaction of the two independent variables indicate that neither groups' depression scores increased more over time than the other group.

An increase in depression scores over the first eight-week period is consistent with previous studies concerning the transition to college and corresponding mental health issues. Eagan et al. (2017) report that the transition to college includes many stressors which can contribute to students' anxiety or depression levels, especially students with already existing diagnosis. In the American Freshmen Survey, 30,102 (21.9%) of the 137,456 respondents identified as having, at least, one mental disability/disorder. The survey found that students who identified as having a disorder experienced more frequent feelings of depression (Eagan et al.). As the current study



participants included only incoming freshmen, the American Freshmen Survey results are meaningful. The first semester is challenging for many first-year students and coping with stressors due to mental health issues can increase vulnerability to adjustment issues (Nordstrom et al., 2014).

### Anxiety

The current study found no statistically significant change in anxiety scores, for either the treatment or the control groups, between the pretest and posttest. The results of the study further indicated no statistically significant difference in the mean anxiety scores between the treatment and control groups which indicates, in effect, the wellness training did not make a statistically significant impact on the treatment group's change in anxiety scores. Further, the resulting interaction of the two independent variables indicate that neither groups' anxiety scores increased more over time than the other group.

### Implications and Recommendations

According to Allan et al. (2014), psychological distress can increase over a student's time at college, therefore, the earlier an intervention can take place, the more helpful to students' overall wellbeing. Campus counseling centers can provide secondary interventions to help treat students experiencing mental health issues. Unfortunately, the increasing level of need demonstrated by college students is outpacing many universities' ability to provide adequate services. Even when services are available, some students may have reservations about seeking mental health services. Course-based interventions can function as a primary, preventative intervention in helping students with mental health issues as well as being a lower-risk choice for students who are reticent about seeking help in a campus counseling center (Conley et al., 2013).

Research supports increased resilience as mediating the impact of mental health issues (Allan et al., 2014; Eisenberg, Ketchen Lipson et al., 2016; Hartley, 2011; Jayalakshmi & Magdalin, 2015). Research further supports that resilience can be developed through course-based interventions (Conley et al., 2013; Eisenberg, Ketchen Lipson et al.; Shatkin et al., 2016). The results of the intervention deployed in the current study were not consistent with prior research as the intervention did not increase resilience nor decrease depression and anxiety. In order to help students achieve greater levels of resilience, which in turn may support lower levels of mental health issues, the university should seek to develop more effective curricular interventions. Given the prevalence of the problem and corresponding importance of finding solutions, a required, semester long course devoted to developing resilience and coping skills could be developed and deployed. Shatkin et al. found improvements in students' perceived stress, use of coping skills and improvements in dysfunctional attitudes, compared to a control group, after participation in a semester long risk and resilience course. The course also employed cognitive behavior techniques to help reinforce the skills and learning.

To improve the effectiveness of the wellness intervention, students must believe the program to be meaningful and place a priority on learning the content and the skills included in the training. By changing the format to a required, semester long course for all first-year students, the university better emphasizes the content's importance. Also, by having the entire course taught by university faculty trained in the content and skills required, the students may be more focused and engaged to learn the content. Finally, by requiring the semester long course, the university provides a shared experience among the student body that can become a part of the culture of the university. Students having

both common vocabulary and experiences can reinforce the importance of developing resilience and help cement the skills to help students in the process.

The results of the current study were inconsistent with previous research regarding the impact of a course-based intervention on resilience and depression and anxiety. Further research using a course-based intervention in a required semester-long course may demonstrate results more consistent with previous research. Also, having consistent instruction by a single faculty member with the assignment of homework and, at course completion, an assigned grade may improve student motivation thereby enhancing the intervention efficacy. Given the limitation of the student maturation process, the semester long intervention also allows students more time to adapt both socially and academically to university life. The extended time may also allow for more practice of the techniques learned in the course which should improve resilience scores and, in turn, decrease depression and anxiety levels. Finally, the current study took place at a small, Christian, Midwestern university. Further research that includes larger private and public universities can make the results more generalizable to the population.

University faculty and staff are desirous of helping students make a successful transition to university life. An increasing number of college students are experiencing mental health disorders which can be an obstacle to academic success and overall wellbeing. By strengthening students' overall resilience levels through curriculum-based interventions, university faculty can effectively help improve mental health in a sustainable manner. The findings and conclusions of the current study were inconsistent with previous studies; however, by attending to the implications and incorporating

research recommendations, future studies may provide a strong intervention to improve both university results and student wellbeing.

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## Appendix A

### Permission to Use Connor Davidson Resilience Scale



Dear Jamie:

Thank you for your interest in the Connor-Davidson Resilience Scale (CD-RISC). We are pleased to grant permission for use of the CD-RISC in the project you have described under the following terms of agreement:

1. You agree (i) not to use the CD-RISC for any commercial purpose unless permission has been granted, or (ii) in research or other work performed for a third party, or (iii) provide the scale to a third party without permission. If other colleagues or off-site collaborators are involved with your project, their use of the scale is restricted to the project described, and the signatory of this agreement is responsible for ensuring that all other parties adhere to the terms of this agreement.
2. You may use the CD-RISC in written form, by telephone, or in secure electronic format whereby the scale is protected from unauthorized distribution or the possibility of modification. **In all presentations of the CD-RISC, including electronic versions, the full copyright and terms of use statement must appear with the scale. The scale should not appear in any form where it is accessible to the public, and should be removed from electronic and other sites once the project has been completed.**
3. Further information on the CD-RISC can be found at the [www.cd-risc.com](http://www.cd-risc.com) website. The scale's content may not be modified, although in some circumstances the formatting may be adapted with permission of either Dr. Connor or Dr. Davidson. If you wish to create a non-English language translation or culturally modified version of the CD-RISC, please let us know and we will provide details of the standard procedures.
4. Three forms of the scale exist: the original 25 item version and two shorter versions of 10 and 2 items respectively. When using the CD-RISC 25, CD-RISC 10 or CD-RISC 2, whether in English or other language, please include the full copyright statement and use restrictions as it appears on the scale.
5. A student-rate fee of \$ 30 US is payable to Jonathan Davidson at 325 Carolina Meadows Villa, Chapel Hill, NC 27517, USA, either by PayPal ([www.paypal.com](http://www.paypal.com), account [mail@cd-risc.com](mailto:mail@cd-risc.com)), cheque, bank wire transfer (in US \$\$), international money order or Western Union.
6. Complete and return this form via email to [mail@cd-risc.com](mailto:mail@cd-risc.com).
7. In any publication or report resulting from use of the CD-RISC, you do not publish or partially reproduce items from the CD-RISC without first securing permission from the authors.

If you agree to the terms of this agreement, please email a signed copy to the above email address. Upon receipt of the signed agreement and of payment, we will email a copy of the scale.

For questions regarding use of the CD-RISC, please contact Jonathan Davidson at [mail@cd-risc.com](mailto:mail@cd-risc.com). We wish you well in pursuing your goals.

Sincerely yours,  
Jonathan R. T. Davidson, M.D.  
Kathryn M. Connor, M.D.

Agreed to by:

Jamie S. Myrtle  
Signature (printed)  
Doctoral candidate  
Title  
Olivet Nazarene University  
Organization

01/05/18  
Date

Appendix B

Survey Instrument—Pretest

The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental  
Health of College Students

Name: \_\_\_\_\_

Survey Code: \_\_\_\_\_

## **Survey Instrument**

### **PART A – CONNOR DAVIDSON RESILIENCE SCALE**

\*Content not included due to the proprietary rights of the survey authors.

**PART B - DASS 21** - Please read each statement and place a check mark in the column beneath that response that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

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

## **PART C – DEMOGRAPHIC INFORMATION**

1. Freshmen Seminar Instructor Name\_\_\_\_\_
  
2. What is your currently identified academic major? (If undecided, please indicate “undecided”.)  
\_\_\_\_\_
  
3. What type of high school did you attend?
  - a. Public
  - b. Private
  - c. Home school
  
4. Are you a member of an MNU athletic team?
  - a. Yes
  - b. No
  
5. What are your current living arrangements?
  - a. Living on campus
  - b. Living off campus

## Appendix C

### Survey Instrument—Posttest, Control Group

The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental  
Health of College Students

Name: \_\_\_\_\_

Survey Code: \_\_\_\_\_



## **PART A – CONNOR DAVIDSON RESILIENCE SCALE**

\*Content not included due to the proprietary rights of the survey authors.

**PART B - DASS 21** - Please read each statement and place a check mark in the column beneath that response that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

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

### **PART C – OPEN-ENDED QUESTIONS**

1. What have you enjoyed the most about your freshmen seminar course?

2. What has been helpful about your freshmen seminar course?

3. What suggestions do you have for improvement for the future?

## **PART D – DEMOGRAPHIC INFORMATION**

1. Freshmen Seminar Instructor Name \_\_\_\_\_
  
2. What is your currently identified academic major? (If undecided, please indicate “undecided”.)  
\_\_\_\_\_
  
3. What type of high school did you attend?
  - a. Public
  - b. Private
  - c. Home school
  
4. Are you a member of an MNU athletic team?
  - a. Yes
  - b. No
  
5. What are your current living arrangements?
  - a. Living on campus
  - b. Living off campus

## Appendix D

### Survey Instrument—Posttest, Treatment Group

The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental  
Health of College Students

Name: \_\_\_\_\_

Survey Code: \_\_\_\_\_

## **PART A – CONNOR DAVIDSON RESILIENCE SCALE**

\*Content not included due to the proprietary rights of the survey authors.

**PART B - DASS 21** - Please read each statement and place a check mark in the column beneath that response that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

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



### **PART C – OPEN-ENDED QUESTIONS**

1. What have you enjoyed the most about your freshmen seminar course?

2. What has been helpful about your freshmen seminar course?

3. What suggestions do you have for improvement for the future?

The following questions are for students that participated in the wellness training (Wednesday sessions) as part of their freshmen seminar course:

4. What practices and ideas, from the training, did you find most helpful?

5. Did you use any of the suggested practices in your every-day life outside of the course?

6. What suggestions do you have for improvement of the wellness training for the future?

#### **PART D – DEMOGRAPHIC INFORMATION**

7. Freshmen Seminar Instructor Name\_\_\_\_\_

8. What is your currently identified academic major? (If undecided, please indicate “undecided”.)

\_\_\_\_\_

9. What type of high school did you attend?

- a. Public
- b. Private
- c. Home school

10. Are you a member of an MNU athletic team?

- a. Yes
- b. No

11. What are your current living arrangements?

- a. Living on campus
- b. Living off campus

Appendix E

Pretest Survey Instructions

## PRETEST SURVEY INSTRUCTIONS

Project Title: The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental Health of College Students.

Good Morning. As you begin your collegiate academic journey, you'll have the opportunity to participate in a variety of academic pursuits. You will, of course, participate in your courses by attending, engaging in class discussions, reading, and doing homework. You can also join clubs or study groups or participate in a mentor program. Another part of the academic process is research. You might have the opportunity to work with a professor as a research assistant or perhaps even begin to do your own research. Today, and throughout this course, you will have the opportunity to participate in the research process as a part of a study one of our faculty is conducting.

The study that you have the opportunity to participate in is entitled *The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental Health of College Students*. The purpose of the study is to examine the effectiveness of certain curriculum content – which will be presented as part of this course, Freshmen Seminar - in improving overall resilience and reducing some negative emotions – such as anxiety and depression. If effective, the hope is to improve overall student wellbeing.

I'm going to read these instructions all the way through before we begin the process.

Today, we will be completing a survey, the results of which will serve as a baseline for the study. Completion of the survey is voluntary. If you choose not to complete it – there is no penalty. Your course grade will not be impacted, and you will still be entitled to all services the university offers. If you choose not to complete the survey, you may work on the other paperwork for today's assignments.

Let's look at the survey packet now. In addition to an informed consent form – which is a requirement of human subjects research, your packet includes a name and survey code page and the pretest survey. The informed consent form provides some information about the study. You'll need to read and sign the document before you begin the survey.

Once you have read and signed the consent form, you may begin the pretest. The survey cover sheet is the blue sheet of paper. On that sheet, there is a place for your name and there is a randomly generated code. You can see the code is also on the first page of the survey documents – but no name identifier. Please print your name on the cover sheet. And then proceed to complete the survey.

Once I collect all the surveys and informed consent forms, I will remove the name and survey code page. The primary researcher (which is the professor conducting the study) will never see your name associated with your survey. The cover sheet with the code will be forwarded to Dr. Rick Hanson. Dr. Hanson is a psychologist and is the leader of the Academic Student Success departments.

If, during the analysis phase of the study, the researcher finds any surveys with high scores on either the depression or anxiety subscale, the researcher will forward the survey code to Dr. Hanson. Dr. Hanson will review the information and confidential contact may be initiated with a student. At that point, the student can decide if they would like to talk to a wellness professional. Again – that decision is completely up to you...but we want to provide you any help you may want or need. We care deeply about your wellbeing and want to make help available if you want it.

All study results will be presented only at a summary level. There will never be any personal identifiers. The researcher will never know who took which survey.

There is minimal risk associated with taking the survey, however, there are some questions about negative emotions – such as depression and anxiety. Questions like this, sometimes, cause discomfort. If at any time you feel uncomfortable, you can stop filling out the survey and work on the other course work.

If you choose to participate, you'll have about 20 minutes to complete the survey. Once you've completed the survey, simply place the survey face-down on your desk/table and when everyone is done, the professor will collect the survey packets.

On behalf of the researcher, I want to thank you for your consideration of participation. It is their hope that the findings of this study will help students learn new ideas and practices that can strengthen overall wellbeing.

Appendix F  
Posttest Survey Instructions

## POSTTEST SURVEY INSTRUCTIONS

Project Title: The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental Health of College Students.

Good Morning. As you may remember, at the beginning of this course, you had the opportunity to participate in a research study conducted by one of our faculty members. Today, the researcher is seeking your participation again in the project.

The study that you have the opportunity to participate in is entitled *The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental Health of College Students*. The purpose of the study is to examine the effectiveness of certain curriculum content – which will be presented as part of this course, Freshmen Seminar - in improving overall resilience and reducing some negative emotions – such as anxiety and depression. If effective, the hope is to improve overall student wellbeing.

I'm going to read these instructions all the way through before we begin the process.

Today, we will be completing a second survey, the results of which will be compared to the survey results from the beginning of the semester. Completion of the survey is voluntary. If you choose not to complete it – there is no penalty. Your course grade will not be impacted, and you will still be entitled to all services the university offers. If you choose not to complete the survey, you may work on the other paperwork for today's assignments.

Let's look at the survey packet now. In addition to an informed consent form – which is a requirement of human subjects research, your packet includes a name and survey code page and the posttest survey. The informed consent form provides some information about the study. You'll need to read and sign the document before you begin the survey.

Once you have read and signed the consent form, you may begin the posttest. The survey cover sheet is the blue sheet of paper. On that sheet, there is a place for your name and there is a randomly generated code. You can see the code is also on the first page of the survey documents – but no name identifier. Please print your name on the cover sheet. And then proceed to complete the survey.

Once I collect all the surveys and informed consent forms, I will remove the name and survey code page. The primary researcher (which is the professor conducting the study) will never see your name associated with your survey. The cover sheet with the code will be forwarded to Dr. Rick Hanson. Dr. Hanson is a psychologist and is the leader of the Academic Student Success departments.

If, during the analysis phase of the study, the researcher finds any surveys with high scores on either the depression or anxiety subscale, the researcher will forward the survey code to Dr. Hanson. Dr. Hanson will review the information and confidential contact may be initiated with a student. At that point, the student can decide if they would like to talk

to a wellness professional. Again – that decision is completely up to you...but we want to provide you any help you may want or need. We care deeply about your wellbeing and want to make help available if you want it.

All study results will be presented only at a summary level. There will never be any personal identifiers. The researcher will never know who took which survey.

There is minimal risk associated with taking the survey, however, there are some questions about negative emotions – such as depression and anxiety. Questions like this, sometimes, cause discomfort. If at any time you feel uncomfortable, you can stop filling out the survey and work on the other course work.

If you choose to participate, you'll have about 20 minutes to complete the survey. Once you've completed the survey, simply place the survey face-down on your desk/table and when everyone is done, the professor will collect the survey packets.

On behalf of the researcher, I want to thank you for your consideration of participation. It is their hope that the findings of this study will help students learn new ideas and practices that can strengthen overall wellbeing.



Appendix G  
Debriefing Statement

## **DEBRIEFING STATEMENT**

Researcher: Jamie Myrtle  
University: Olivet Nazarene University  
Department: EDUC, Ed.D. Cohort XVIII

Thank you for participating in my research study during your Freshman Seminar course. You were selected as a participant because you are a first-year college student enrolled in one of six sections of the Freshmen Seminar course. The purpose of this debriefing statement is to inform you that the full nature of the study or an aspect of the study was not fully disclosed to you.

### **Background Information:**

The purpose of the current study was to explore the impact of wellness training on resilience, depression, and anxiety in college age students in order to determine the effectiveness of the intervention in improving resilience and reducing the level of depression and anxiety thereby increasing student wellbeing.

### **Deceptive Element(s):**

You were originally told that the title of the study was:

The Impact of Special Topics in Freshmen Seminar on Overall Wellness and Mental Health of College Students

The true title of the study was:

The Impact of Wellness Training on Resilience, Depression, And Anxiety in College Age Students

Further, originally, the name of the principal researcher was withheld.

### **Reasons for Lack of Full Disclosure:**

The researcher changed the title in order to avoid bias in the questionnaire responses due to any prejudice with regards to depression and/or anxiety.

The name of the principal researcher was withheld due to the researcher's involvement in delivery of topical materials during the Freshmen Seminar course.

### **Contacts and Questions:**

The researcher conducting this study is Professor Jamie Myrtle. You may ask any questions you have now. If you have questions in the future, including a request for the full research report, **you are encouraged** to contact her at [jmyrtle@mnu.edu](mailto:jmyrtle@mnu.edu) or 913-971-3574.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact Olivet Nazarene University's Institutional Review Board.

## Appendix H

### Treatment Group Posttest Open-Ended Question Responses

### Feedback from Treatment Group Open-Ended Questions

1. What practices and ideas, from the training, did you find most helpful?
  - Breathing
  - The breathing
  - Everyone fails at some point, you just have to keep on working hard and the blessings will come.
  - Breathing
  - Ways to deal with stress, such as the breathing exercise
  - How to face conflict and the breathing practice
  - The breathing method
  - Breathing and mindfulness
  - I already know and try to apply most of the concepts we were taught, but it was still a good reminder.
  - Breathing and using humor
  - Breathing
  - The breathing was a big one, I think sometimes we forget how something so little can affect us.
  - The stats behind normal activities
  - The interactive ones
  - Resilience
  - Nothing
  - How to deal with stress
  - Stop and just breathe
  - I liked the somewhat physical activities we did, where would have to get up to participate
  - Breathing and calming down so that one can focus
  - Learning about sleep
  - None
  - Breathing [sic]
  - Nothing
  - The advise [sic] and steps for stress
  - Mindfulness
  - The breathing technic [sic]
  - The videos kept it interesting
  - Breathing. Mindfulness. Selfless.
  - 5 x 5 x 5
  - The ways to handle stress
  - Breathing
  - Breathing
  - To be calm and don't panic
  - The breathing 5 x 5
  - How to lessen stress

### Feedback from Treatment Group Open-Ended Questions

2. Did you use any of the suggested practices in your every-day life outside of the course?
  - Breathing
  - Yes
  - The breathing exercises
  - Yes
  - Yes, the breathing exercise (5-5-5)
  - Yes, how to face conflict with the people around me
  - No
  - Breathing and mindfulness
  - Yes
  - Breathing and the awareness technique
  - No
  - Sometimes, yes.
  - Yes, I did.
  - Yes
  - Be grateful more
  - No
  - Yes
  - Breathing technique
  - I haven't, but if there comes a time where it is needed then probably
  - Yes, mindfulness is a favorite walking buddy of mine
  - Yes, I slept more.
  - Nope
  - Nope
  - Nope
  - Yes
  - The 5 x 5 x 5 breathing
  - The breathing one when I was mad.
  - Yes
  - Yes, the breathing technique [sic]
  - A little bit
  - No, already knew them
  - Yes!!
  - Yes
  - Couple times
  - 5 x 5 breathing
  - The breathing exercise

### Feedback from Treatment Group Open-Ended Questions

3. What suggestions do you have for improvement of the wellness training for the future?
  - Nothing. Everything was great.
  - Different topics
  - Some of the material was a bit silly or childish – make it more for college-aged kids
  - More questions/discussion
  - Maybe more discussion on Wednesday classes about the topic
  - None
  - None
  - Outside on a hot day to enjoy the sun
  - N/A
  - I enjoyed it. Maybe hearing examples of successful people and how they used resilience to overcome their obstacles.
  - I felt like overall it was taught very well!
  - N/A
  - Also less “perfect” solutions
  - N/A
  - Whatever you think is useful
  - Talk about it a little more
  - N/A
  - Consider making it optional to share out loud to the class? I don’t really know any improvements.
  - None
  - None
  - N/A
  - I don’t know.
  - More practice [sic] things. More serious [sic] talks about mental health
  - I don’t know. It was ... just all stuff we all have heard before nothing new
  - Less surveys
  - N/A
  - Have more topics
  - None
  - N/A
  - Don’t overthink
  - Nothing
  - None.
  - None
  - I’m clueless right now
  - Make it more interesting like with videos