

Exploration of the Effectiveness of a Resilience Curriculum Delivered as a College

Course: The APT Framework & THRIVE Resilience Curriculum

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Abstract

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APT Framework & THRIVE Resilience Curriculum

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Starting college can be one of the most exciting events in the life of a young person as well as one of the most stressful. Despite the availability of campus resources to support students who are experiencing struggles, less than 20% of students utilize campus resources for intervention purposes. To address this need, this study utilized mixed methods to explore the effectiveness of a universal preventive intervention implemented in the form of a college course for credit. Study participants completed pre- and post-test measures of perceived stress, perceived capacity for experiencing resilience, and reported satisfaction with life. Treatment-group participants' responses to questions directed at their perceptions of intervention acceptability and appropriateness were analyzed using a directed content analysis. Preliminary results indicated that treatment-group participants reported significant decreases in perceived stress and significant increases in perceived satisfaction with life compared to reports from a comparison

group. There were non-significant differences in perceived capacity to experience resilience between the treatment and comparison groups. Recommendations for modifications and future research directions for implementing the THRIVE Resilience Curriculum as a college course for credit are discussed.

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DEDICATION

This is dedicated to my family and friends whose relentless support of me, in some form or fashion, is as deserving of this final document as anyone. Those of you who have invested so so much, you know who you are.

Also, this is dedicated to everyone yet to achieve living close to their potential. Though we never actually achieve our potential, because it grows with our growth, some of us need additional support to get close--I hope this work can help you get closer.

INTRODUCTION

An inevitability in life is that people will encounter adversity, challenge and risk. It is such a certainty that there exists a physiological mechanism to effectively respond to such challenges called the stress mechanism (Anisman, 2015). A problem arises, however, if one is incapable of managing their own stress mechanism and it is activated or engaged endlessly. Chronic stress can have a host of harmful physiological and psychological outcomes including obesity, cardiovascular disease, depression, poor brain functioning (e.g. hippocampal and prefrontal cortex regions) and burnout (Silverman & Duester, 2014).

An important aspect of human functioning is its capacity to experience resilience in the face of stressors (Masten, 2001). The process of adapting and persevering that contributes to resilience enables those confronting stressors to find solutions to cope with and overcome their stressors. These positively adaptive outcomes pertain to the acute nature of a presenting stressor as well as potentially contributing to an enhanced capacity to experience such positive outcomes in the face of future stressors—to experience resilience. The need to draw on skills and strategies to experience resilience are heightened at varying times in life due to the presence of increased numbers of or increased severity of stressors. Examples of this include the loss of loved ones, significant transitions in life, or when confronted with novel challenges. A time in some peoples' lives that includes novel challenges and significant transition is that of going to college.

College and Stress

Starting college can be one of the most exciting times in the lives of young people. The benefits of a college education are overwhelmingly positive according to Baum and Payea at CollegeBoard (2005) and the PEW Research Center (2014). According to both entities, the benefits of a college education still outweigh the increased cost of tuition (Baum & Payea, 2005; PEW

Research Center, 2014). According to the College Board, typical bachelor degree recipients earn over 70% more over their lifetimes than do typical high school graduates, and as of 2013, 25-32 year olds with a college degree are making \$17,500 more than high school graduates (Baum & Payea, 2005; PEW Research Center, 2014). Beyond earnings, there are a host of societal, generational and wellness outcomes that are correlated with a college degree (Baum & Payea, 2005; PEW Research Center, 2014). These benefits have life-long consequences and set a life course trajectory that is much harder to obtain without a college education. The range of benefits to earning a college degree notwithstanding, inherent to the pursuit of a college education are challenges and stressors.

The Unreported Side of College

Millions of young people who enter college are unable to realize their dreams for several reasons (Braxton, 2013). Specifically, homesickness, changes in sleeping habits, struggles with interpersonal relationships, among others, have all been found to contribute to the stress experienced by college students (Dusselier, Dunn, Wang, Shelley & Whalen, 2005; Eisenberg, Golberstein & Gollust, 2007). The prevalence of psychological problems is potentially as high as 30% among students on college campuses (Conley, Travers & Bryant, 2013; Eisenberg et al., 2007; Eisenberg, Hunt & Speer, 2012; Hartley, 2012; McDonald, Pritchard & Landrum, 2006). While some college students are able to cope with the stressors they encounter in college, others succumb to those very stressors. Beyond interfering with academic performance, hopelessness, depression, and potentially death by suicide are outcomes that could result from encounters with heightened stressors that are a part of college (e.g., Anisman, 2015; Conley, Travers et al., 2013; Dusselier et al., 2005; Godin, Kittel, Coppieters & Siegrist, 2005). Further, of those college students who are experiencing symptoms of mental struggle, a meaningfully low portion

(roughly 10%) seek campus counseling services (Conley, Travers et al., 2013; Rosenthal & Wilson, 2008). Despite there being only a small fraction of college students who seek mental health supports, campus counseling services are having a difficult time meeting their needs (Hartley, 2012). This is because the treatment-model offered by campus mental health services is typically individually-based and less devoted to proactive, preventive, supports that address populations as a whole (Conley, Travers et al., 2013; McDonald et al., 2006). Given the difficulty campus resources are having in effectively supporting the mental health and wellness needs of their student populations, recommendations to provide wellness-promotive programming at the college level are increasing (e.g., Conley, Travers et al., 2013; Conley, Durlack et al., 2013; Shatkin et al., 2016).

Resilience

An effective way to support wellness rather than waiting for illness to arise, or treat it after it has arisen, is by providing skills to effectively cope with illness ahead of time and by promoting wellness. A way to proactively support individuals' mental health and wellness is by teaching them resilience skills. A generally accepted understanding of individual resilience is the concept of positively adapting during or following considerable threats or stressors (Masten, 2011). Such adaptation during and after threatening events can be the result of processes, deployed strategies and skills or even an inherent capacity related to outcomes of resilience (Masten, 2011). This multifaceted means of experiencing resilience allows for certain aspects related to resilience outcomes, such as developing correlates that are a part of processes and skills and strategies of resilience, to be learned, and therefore taught. Indeed, a primary purpose of research into the factors that contribute to experiencing resilience was for translating gleaned information to practices that could enable anybody to experience resilience:

From the outset, resilience investigators shared a translational agenda, recognizing that it was essential to understand strengths and positive adaptation as well as risks or pathological processes in order to prevent or ameliorate the ravages of extreme adversity (Masten, 2011).

Such an intention lends itself to supporting individuals in a range of challenging circumstances.

An ideal population that faces challenging circumstances is that described above, college students. Despite the college-student population being such a suitable fit for focusing efforts to foster resilience skills and strategies, proactive and universal approaches for promoting wellness is lacking.

Study Purpose

The purpose of the project was to conduct a developmental study to explore the preliminary effectiveness, acceptability, and appropriateness of a newly developed resilience program designed for college students. The resilience program is called Teaching Health and Resilience for Intercollegiate-athletes' Vitality and Education (THRIVE) and is informed by a framework of resilience developed by the author and a colleague, the Adapt Persevere Thrive framework (APT; for THRIVE and APT details contact author). This dissertation project was considered the second step in the program development of THRIVE and a necessary component for establishing a sustainable and scalable universal resilience intervention that will hopefully lead to a reduction in the perceived impact of stressors and therefore increasing greater mental wellness among college students (e.g., Conley, Travers et al., 2013; Dusselier et al., 2005; Fishbein, Ridenour, Stahl & Sussman, 2016; Hartley, 2012). Considering the high likelihood that most college students will face adversity during their time in school and beyond, using a universal preventive intervention program to provide skills and strategies that support their experience of social-emotional resilience is imperative (American College Health Association, 2006, 2008, 2013, 2017; Aselton, 2012; Wong, Chueng, Ma, & Tang, 2006). This type of intervention has the potential to minimize the

exacerbation of existing mental health conditions and reduce the possibility of mental illness developing at all. Ultimately, the outcomes associated with social-emotional resilience and overall resilience skills and strategies, empower students with the ability to attain their personal, academic, and professional goals.

The primary aims of this dissertation project were: 1) exploring the overall potential for the THRIVE resilience program; and 2) determining the acceptability and appropriateness of the program as specified in Type I Translation stage according to the Translational Spectrum Model (Fishbein et al., 2016). The results from this study are being used to modify and refine the THRIVE curriculum in the short-term and establish an educational foundation of teaching mental wellness at the universal level for institutes of higher education in the long-term.

Chapter II: Literature Review

Importance of a College Education

Obtaining a college education has numerous professional, economic, personal and societal benefits (Ma, Pender & Welch, 2016). Professional preparedness, financial and personal growth and contributing to society are all outcomes correlated with higher education (e.g., Baum & Payea, 2005; Ma et al., 2016; Pew Research Center, 2014). Accompanying these potential outcomes are barriers that are frequently encountered when attending college (Conley, Travers et al., 2013). These barriers are in the form of stressors that are social, academic, intrapersonal and even logistical in nature (Conley, Travers et al., 2013; Dusselier et al., 2005; Hartley, 2012; Rosenthal & Wilson, 2008). Unfortunately, in the face of these stressors, there are many college students who are unable to fulfill their aspirations for a college degree and subsequently beneficial outcomes (Aselton, 2012; Conley, Travers et al., 2013; Wong et al., 2006). For those that do earn their degrees, the benefits have the potential to be lasting and experienced across multiple domains of their lives (Ma et al., 2016).

Professional and economic benefits. The value of a college education has lasting professional and economic well-being benefits, regardless of the continued narrative about the rising cost of a college of education (Pew Research Center, 2014). A recent report from the Pew Research Center (2014), based on findings from a nationally representative sample of 2,002 adults, outlined several trends that highlight the importance of a college education. According to the 2014 survey, roughly 22% of high school graduates were living in poverty, whereas only 7% of college graduates were living in poverty. College graduates have been shown to have roughly a four times lower rate of unemployment than their high school graduate counterparts (3.8% & 12.2% respectively; Pew Research Center, 2014). College graduates ages 25 to 32 reported

favorable responses related to their professional lives including having a career or a career-track job; feeling they had enough education and training to get ahead in their job; feeling “very satisfied” with their current job; and feeling their education was “very useful” in preparing them for a job or career, compared to high school graduates. Additionally, according to the Pew Research Center (2014), the median annual income of a college graduate is over 40% greater than that of a high school graduate. Further, for those unemployed and looking for work, the Pew Research Center (2014) found that high school graduates took 4 weeks longer than college graduates to find employment. Finally, high school graduates’ earnings have fallen in recent decades, contributing to an ever-widening earnings gap between high school and college graduates and highlighting the importance of earning a college diploma (Pew Research Center, 2014).

Personal and societal benefits. In addition to the statistical outcomes that pertain to professional and economic gains associated with a college education there are other intangible benefits (Ma et al., 2016). Such benefits include greater civic engagement, better choices related to exercise, and more frequent engagement in educational activities with family members than those without a college degree (Ma et al., 2016). For instance, during the 2014 midterm and 2012 presidential elections, those with a bachelor degree or higher voted at a greater rate than those without a bachelor’s degree (Ma et al., 2016). Regarding volunteering, those with a bachelor degree volunteered at a greater rate than those without (Ma et al., 2016). Individuals with a bachelor’s degree reported greater rates of vigorous physical activity and read to their children at greater rates than those with a high school diploma (Ma et al., 2016).

Collectively, these outcomes paint a picture wherein earning a college degree is related to less poverty, better employment, better wages, a healthier lifestyle and more engaged living

when compared to not earning a college degree (Ma et al., 2016; Pew Research Center, 2014). Despite the clear benefits for obtaining a college education, some students who enter college do not achieve their goal of graduating. Instead, they succumb to the challenges and stressors abound within college and university settings (Braxton, 2013). Some of these students are unable to navigate the challenges of typical young adult issues (e.g., increased independence, new relationships, increased responsibility), ultimately dropping out, or leaving their institution, while others encounter these same difficulties compounded with unaddressed needs related to mental illness (Braxton, 2013; Conley, Durlak et al., 2013; Conley, Travers et al., 2013; DeRosier, Leary, Frank & Schwartz, 2013; Hyun, Quinn, Madon & Lustig, 2006). Often these needs can go overlooked because the absence of mental distress is too often equated to mental wellness. Therefore, to optimize their potential for successfully navigating the rigors of college, consideration for students' mental wellness on its own continuum distinct from illness is warranted.

Dual-factor model. Historically, models of mental health have devoted their attention to pathology (e.g., Greenspoon & Sasklofske, 2001; Kia-Keating, Dowdy, Morgan & Noam, 2011; Kim, Furlong, Dowdy & Felix, 2014; Lyons, Huebner & Hills, 2013). Specifically, these models have viewed good mental health as the absence of mental illness. More recently, however, researchers have acknowledged that this conceptualization of good mental health is insufficient (e.g., Keyes, 2003; Seligman & Csikszentmihalyi, 2000; Suldo & Shaffer, 2008). There is now a qualitatively different conceptualization of mental health that views psychopathology and mental illness on one continuum and the presence of positive thoughts, feelings, and behaviors on a separate continuum (Greenspoon & Sasklofske, 2001; Keyes 2003; Kia-Keating et al., 2011;

Lyons et al., 2013; Suldo & Shaffer, 2008). This model is the Dual-Factor model (DFM) of mental health.

Within the DFM of mental health, the continuum of mental illness is characterized by psychopathology, or externalizing and/or internalizing symptoms, that contribute to maladaptive outcomes (Lyons et al., 2013; Suldo & Shaffer, 2008). The continuum for wellness is characterized by subjective well-being, a construct that includes positive emotions, the absence of negative emotions, and a positive, cognitive judgment of the quality of life overall (Diener, 1984; Lyons et al., 2013; Suldo & Shaffer, 2008). Each continuum varies from a low to high level.

Quadrants of the DFM. According to the DFM of mental health, four quadrants emerge between the two separate continua of pathology and wellness, or subjective well-being (Diener, 1984; Greenspoon & Sasklofske, 2001; Lyons et al., 2013). The first two groups are considered as emotionally disturbed or behaviorally disordered and are characterized as being high in psychopathology (Greenspoon & Sasklofske, 2001; Lyons et al., 2013). An individual who is high in psychopathology and low in subjective well-being is described as distressed (also labeled as Troubled; Greenspoon & Sasklofske, 2001; Lyons et al., 2013; Suldo & Shaffer, 2008). Those who are high in psychopathology and high in subjective well-being are described as externally maladjusted (also labeled as Symptomatic but Content; Greenspoon & Sasklofske, 2001; Lyons et al., 2013; Suldo & Shaffer, 2008). An individual who is low in psychopathology and high in subjective well-being is described as well-adjusted (also labeled as Positive Mental Health); and finally, individuals low in both psychopathology and subjective well-being are described as dissatisfied (also labeled as Vulnerable; Greenspoon & Sasklofske, 2001; Lyons et al., 2013; Suldo & Shaffer, 2008; see Figure 1).

Figure 1. Quadrants of wellness and pathology according to the DFM

	Low Pathology	High Pathology
Low Well-being	Dissatisfied/Vulnerable	Distressed/Troubled
High Well-being	Well-adjusted / Positive Mental Health	Externally Maladjusted / Symptomatic but Content

Research examining the DFM of mental health has yielded support for each of the four domains (Antaramian, Huebner, Hills & Valois, 2010; Lyons et al., 2013; Suldo & Shaffer, 2008; Suldo, Thalji & Ferron, 2011). In their investigation with middle school students, Suldo and Shaffer (2008) demonstrated meaningful differences between Vulnerable students (low psychopathology and low subjective well-being) and Positive Mental Health students (low psychopathology and high subjective well-being). Specifically, Suldo and Shaffer (2008) found that students with low psychopathology, but also low subjective well-being (Vulnerable), reported lower social support from classmates and parents, lower valuing of school and more absences, more social problems, lower standardized test scores, lower academic self-concepts, and more self-perceived physical health problems than those with low psychopathology and high subjective well-being (Positive Mental Health). Furthermore, Suldo et al. (2011) found that these vulnerable students also showed the greatest decline in grade point average (GPA) one year later.

Additional research investigating the DFM of mental health in school settings has examined differences in students from each of the four quadrants of wellness regarding their behavioral, cognitive, and emotional engagement (Antaramian et al., 2010; Lyons et al., 2013). Antaramian et al. (2010) found that students from the Positive Mental Health group showed significantly higher engagement in school with regard to their behavior (e.g., work orientation,

task challenge, school attachment), emotion (e.g., attitudes toward school, general school self-concept, attitudes towards teachers), and cognition (e.g., GPA, reading achievement, math achievement) compared to the Symptomatic but Content, Troubled, and Vulnerable groups. Further, pertaining to GPA scores, students in the Positive Mental Health group had significantly higher scores than students in all other groups (Antaramian et al., 2013).

These findings are important contributions because the use of traditional deficit-based models would have overlooked Vulnerable populations due to a low presence of psychopathology (Antaramian et al., 2013; Suldo & Shaffer, 2008). When drawing on the DFM, however, these vulnerable young people can be identified with measures that assess subjective well-being, their lack of well-being can be better understood, and their wellness can be supported. This can minimize the likelihood that the absence of both wellness and psychopathology turn into the presence of mental illness and disorder. By focusing on promoting student wellness and not just reacting to illness, the detrimental effects of the inevitable stressors encountered in college may serve as opportunities to grow rather than as factors that precipitate struggle (DeRosier et al., 2013).

Heightened Stressors & Experience of Stress

Heightened levels of stress. During their time in college, students not only receive the education to prepare them for their futures, but they also encounter novel and numerous stressors that can threaten the pursuit of that meaningful education (Conley, Durlak et al., 2013; Conley, Travers et al., 2013; DeRosier et al., 2013). Homesickness, navigating new social environments and independence from parents, difficulties with roommates and financial concerns are just some of the stressors identified among college students (e.g., ACHA, 2016; Conley, Durlak et al., 2013; Conley, Travers et al., 2013; Dusselier et al., 2005). In the face of these stressors, some

young people are unable to effectively cope with the various stressors that arise during their time in college (Braxton, 2013; Hartley, 2012). Almost 25% of students reported anxiety as having some form of academic impact (e.g., lower grade on an exam or project, incomplete or dropped course, or significant disruption on a thesis, dissertation or practicum work) and over 32% of students reported some form of academic impact due to stress (ACHA, 2016). Academic impact may be the extent of the negative effect for some students, while for other students the result is dropping out of college.

Potential outcomes of heightened stress. According to the U.S. Department of Education (2016), out of roughly 15.6 million students pursuing a bachelor's degree at a 4-year institution, over 6 million do not graduate after 6 years. According to the National Student Clearinghouse Research Center (NSCRC; 2014), of the 18.6 million students who enrolled in a 4-year public institution, just over 62% went on to complete their degree within the 6-year time frame. While these figures are limited to the 2007 and 2008 cohorts entering college, it is undeniable that many millions of students who enter college with aspirations of attaining their college degree do not succeed.

Regardless of whether a student chooses to stay in college, the experience of stress and the heightened number of stressors play a significant role in increasing the severity and intensity of mental distress or disorder (Bettis et al., 2017; Grant et al., 2003). Research has shown that higher levels of perceived stress are linked to hopelessness and depression (e.g., Anisman, 2015; Kumar et al., 2015; Van Pragg, De Kloet & Van Os, 2004). These two psychological constructs are potential outcomes of stressors that are likely to arise when pursuing a post-secondary education degree, along with additional developmental stressors typically associated with being a young adult (ACHA, 2016; Conley, Durlak et al., 2013; Conley, Travers et al., 2013; DeRosier et

al., 2013). When faced with greater number of stressors, risk for compromised psychological wellness increases (Godin et al., 2005; Sameroff, 2000; Sameroff & Rosenblum, 2006; Zimmerman et al., 2013). The outcome of hopelessness, along with anxiety and depression, individually or collectively, are related to suicidal ideation and suicide (Kisch, Leino & Silverman, 2005).

Prevalence of suicide in college. There were 19.5 million college students enrolled in two-year and four-year colleges as of 2013 (U.S. Census Bureau, 2014). Coupled with figures estimating that 7.5 college students for every 100,000 died by suicide, statistically speaking, over 1,400 college students died by suicide from 2013 to 2016 (National Mental Health Association and Jed Foundation, 2002; U.S. Census Bureau, 2014). Two groups are particularly at high risk for suicidal ideation and suicide, those with existing mental illness and those who develop it in college (National Mental Health Association and Jed Foundation, 2002).

While most who experience depression and hopelessness do not attempt or die by suicide, among college students who died by suicide, the majority were experiencing depression and hopelessness (Kisch et al., 2005; National Mental Health Association and the Jed Foundation, 2002). For example, among college students who seriously considered suicide, 94.4% reported feelings of hopelessness (Kisch et al., 2005). By comparison, of those who reported feeling hopelessness on three or more occasions, only 23.8% reported seriously considering suicide (Kisch et al., 2005). Similarly, among college students who seriously considered suicide, 94.8% reported feeling so sad that they could not function, whereas, among students who felt depressed to the point of having difficulty functioning, 33.4% reported seriously considering suicide (Kisch et al., 2005). While having significant emotional difficulty may not lead to suicidal ideation or

attempting suicide, the majority of individuals who consider suicide struggle with emotional difficulties.

Collectively, these figures illustrate how prevalent the risk of suicide is among college-aged students and how important being adaptive is to experiences of anxiety and reducing the severity of depression and hopelessness (Kisch et al., 2005). Mental health difficulties, including anxiety, depression, and hopelessness are often exacerbated by stress—but it is mental health problems that are the key factor, with stress being an important driver of those mental problems. Therefore, supporting individuals in contexts known to have high numbers of stressors, and reducing the severity of hopelessness and depression, is of great value for the health and wellness of young people attending college (Conley, Travers et al., 2013, Conley, Durlak et al., 2013; DeRosier et al., 2013). Unfortunately, however, meeting the wellness needs of a population as large as that of a university has been a challenge (Blanco et al., 2008; Conley, Travers et al., 2013; Eisenberg et al., 2012).

Challenges to Supporting Students

Underutilization of existing resources. Attending college has been established as a time when young people encounter a high level of stressors (ACHA, 2016; Conley, Durlak et al., 2013; Conley, Travers et al., 2013; DeRosier et al., 2013). In addition to high levels of stress, the onset of disordered functioning typically occurs during a developmental window that corresponds with that of most college students (18-24; ACHA, 2016; Dusselier et al., 2005; Eisenberg et al., 2012; Kessler, Demler, Jin, Walters, Berglund, & Merikangas, 2005). Figures have shown that almost half of college-aged people, both attending and non-attending (45.79% and 47.74% respectively), have a diagnosable disorder (Blanco et al., 2008). Yet, for those in college, less than 20% (18.45%; Blanco et al., 2008) and for some segments less than 10%

(Rosenthal & Wilson, 2008) of students sought treatment. For some, the choice may be related to stigma (Cook, 2007; Corrigan et al., 2000; Eisenberg et al., 2012; National Alliance of Mental Illness (NAMI), 2004); for others, a lack of awareness is the barrier (Yorgason, Linville & Zitzman, 2008). It has been shown that as many as 30% of students have never heard of counseling services while 37% have heard of such services, but knew nothing about them (Yorgason et al., 2008). Such an underutilization of resources leaves vulnerable a population assured to encounter challenges and at a developmental period of their lives wherein disorders are likely to have their onset if they are going to arise (ACHA, 2016; Conley, Durlak et al., 2013; Conley, Travers et al., 2013; DeRosier et al., 2013; Eisenberg et al., 2012). In addition to students underutilizing available resources for their mental health, there is another challenge facing the efforts to meet the needs of universities—the adequacy of resources (Conley, Travers et al., 2013; SAMHSA, 2007).

Inadequacy of Resources. As discussed, only a small percentage of college students are seeking treatment from campus resources for the psychological struggles they experience, and yet those resources are strained by the demand (Hartley, 2012; McDonald et al., 2006). One part of the problem is the modality of treatment typically adopted by campus counseling resources. The current majority of counseling centers utilize an individual-based treatment model (Conley, Travers et al., 2013; McDonald et al., 2006). This is vastly insufficient given the sheer number of students in need of support. Drawing on figures previously mentioned, if just under half (45.79%) of students at an institution of 20,000 students has a diagnosable disorder, over 9000 students are in need of counseling and mental health services as such an institution (Blanco et al., 2008). Meeting such a need is unrealistic especially when counseling centers are experiencing significant cutbacks in despite rising need (Hartley, 2012; Rosenthal & Wilson, 2008; SAMHSA,

2007). Beyond the volume of need currently overwhelming counseling centers, students sometimes enter the counseling space with greater need than counseling centers are able to meet (Mowbry et al., 2006; SAMHSA, 2007). Anecdotal evidence describes the conflict of more intensive needs and insufficient resources, “The needs students bring to our counseling center well exceeds our resources,” said one administrator of a student counseling center (SAMHSA, 2007, p. 20). A psychologist from a counseling center explained, “A business-oriented administration focused on faster-better-cheaper is reflected in our diminished counseling resources.” (SAMHSA, 2007, p. 20). These anecdotes describe a meaningful limitation to efforts for supporting student wellness and addressing their mental health needs. To address this insufficiency, researchers suggest an approach that is more integrative in nature by supplementing individual-based counseling approaches with preventive group and classroom-based interventions in order to reach more students (Conley, Travers et al., 2013).

Elements for Prospective Models of Support

Captured Audience. Researchers have recognized that students attending college provide an opportunity to reach a population that are likely faced with adversity (Conley, Durlak et al., 2013; Conley, Travers et al., 2013; Shatkin et al., 2016). By implementing a preventive and universal approach with this population, researchers can promote skills and strategies that can benefit students with the challenges and stressors inherent in their experience (Conley, Durlak et al., 2013). Further, providing these mental health supports among college students can be done in ways that leverage existing access points in accordance with recommendations (Conley et al., 2013; Kazdin, 2008). Utilizing this approach can benefit students whether or not they show a need. This universal approach aligns with a fundamental framework of providing services within systems called a multi-tiered system of supports (MTSS).

MTSS. A MTSS model of mental health ensures that there is a continuum of care, based on need, that is available to those with access to the setting in which the MTSS model is implemented and/or exists (e.g., Bierman, 2003; Cook, Burns, Browning-Wright, & Gresham, 2010; Sulkowski & Michael, 2014; Weissberg & Greenberg, 1998). Specifically, a MTSS model ensures there is a preventive, or universal, tier of supports (e.g., universal screening, school-wide intervention program, class). For those with mental health needs that exceed the supports provided by the universal tier, a more intensive, or selective, tier of supports exists (e.g., more targeted assessment, more focused/small-group intervention). Finally, for those who need additional support that exceeds that offered in universal and selected tiers, there exists a third, or indicated, tier of support for mental health and wellness (e.g., direct therapy, individualized interventions).

The MTSS model has received clear support as an effective approach or framework for supporting mental health and wellness in school settings (Bierman, 2003; Doll & Cummings, 2008; Froiland, 2011; Rossen & Cowen, 2014; Sulkowski & Michael, 2014). Research supporting the effectiveness of using MTSS to support mental health in school settings typically draws on a Response to Intervention (RtI) approach within the multiple tiers of support to demonstrate student gains (Cheney, Flower, Templeton, 2008; Froiland, 2011). For instance, Cheney et al. (2008) implemented a thorough, multi-tiered, intervention across nine elementary schools. Their findings demonstrated a reduction in number of students eligible for special education based on emotional and behavioral eligibility, as well as a reduction in problem behavior. While this is an example of the benefits of a universal level intervention in an elementary school setting, a universal level approach has been demonstrated as effective among undergraduates as well (Shatkin et al., 2016).

Proactive/preventive universal approach. As previously discussed, existing resources to support college students are underutilized and implementing universal approaches that are preventative in nature are ideal to reach as many students as possible (e.g., Conley, Travers et al., 2013; Rosenthal & Wilson, 2008). Effective treatments have great potential when disseminated at a population level and in educational formats (Kazdin & Blasé, 2011; Smith & Ascough, 2016). Drawing on this approach and promoting skills that are suited for navigating adverse circumstances is a promising combination. This was largely the rationale for Shatkin et al. (2016) and colleagues with their class for undergraduates focused on resilience skills.

Shatkin et al. (2016) examined the effectiveness of an undergraduate class that incorporated positive coping strategies and positive cognitive styles, in addition to more general concepts of supporting wellness (e.g., disease prevention models, theories of behavior change, adolescent risk-taking behavior). Included in the content of this class was an introduction to the cognitive distortions that are the most common, as well as techniques for overcoming cognitive distortions (Shatkin et al., 2016). Compared to control students from a psychopathology course, students from the treatment group reported less perceived stress, better coping skills, and a reduction in dysfunctional attitudes. This study provided preliminary evidence for the potential of promoting resilience skills among students for whom the beneficial implications are both short and long term.

Another preventive intervention implemented among a college student population by Steinhardt and Dolbier (2008) showed the potential for such a resilience intervention. In their study, Steinhardt and Dolbier (2008) exposed college students to 4 2-hour sessions focused on transforming stress into resilience, taking responsibility, focusing on empowering interpretations and creating meaningful connections. They found that compared to the wait-list control group,

study participants reported higher scores on resilience, positive affect, self-esteem and leadership, lower symptoms of depression, negative affect and perceived stress, and having more effective coping strategies (Steinhardt & Dolbier, 2008). This is another example of the potential of preventive interventions for promoting wellness among college students.

Given the prevalence and potential for mental illness and the inevitability of encountering stress in college, resilience skills and strategies are particularly relevant and needed (ACHA, 2005, 2013, 2016). Indeed, the origins and inherent nature of resilience assumes stress as a part of life (Luthar, 2006; Luthar et al., 2000; Masten, 2013). For a better understanding of the history of resilience and why it is well suited to support college students, the following paragraphs will provide a more in-depth review of the resilience literature.

Resilience

The field of resilience has evolved over a span of decades (e.g., Davydov, Stewart, Ritchie & Chaudieu, 2010; Green, Galambos & Lee, 2004; Luthar, Cicchetti & Becker, 2000; Lipsitt & Demick, 2012; Masten, 2011; 2013) with the interpretations of its importance impacted by the theories and practices of the times. The historical context of resilience includes work devoted to identifying key concepts upon which to base inquiry, refining those concepts to address identified shortcomings, and striving to utilize the new knowledge gained through this process and through research to improve the human condition; in this case, by developing prevention and/or intervention programs to foster resilience (e.g., Cicchetti, 2011; Luthar, 2006; Luthar et al., 2000; Masten, Best & Garmezy, 1990; Wright, Masten & Narayan, 2013). The current status regarding the field of resilience has come under some circumspection (Johnson, 2016; Lipsitt & Demick, 2012). Researchers not in favor of efforts devoted toward a greater understanding of resilience as a concept have been skeptical about the construct's added value to

developing interventions and informing policy-efforts for children (Kaplan, 1999; Lipsitt & Demick, 2012; Tolan, 1996). Skeptics' sentiments are that research done to this point is sufficient, and they have questioned established understandings of key resilience concepts (Johnson, 2016; Kaplan, 1999; Tolan, 1996). Despite a relatively small degree of skepticism, the field of resilience research has generated meaningful and useful knowledge to achieving wellness and to understanding psychopathology.

Key Concepts

Researchers of resilience have found it a difficult construct within which to establish consistency (Luthar et al., 2000). There are two aspects of resilience that are largely unrefuted: 1) resilience assumes the presence of significant threat or adversity, and 2) an outcome of positive adaptation despite the presence of significant threats, adversity or “assaults” on the developmental process (Luthar et al., 2000, p. 1). Despite the relative acceptance of these preconditions, the remaining components or aspects of resilience continue to be explored (Luthar et al., 2000; Masten, 2013; Wright et al., 2013). It is within this continued exploration that researchers in the field of resilience have dedicated their efforts—to determine specifically, the processes, factors, and characteristics or traits that lead to positive and adaptive outcomes in the context of adversity (Cicchetti, 2011; Luthar, 2006; Masten, 2013).

Risk and Resilience Factors. Researchers first examined the construct of resilience by identifying the risk and resilience factors (protective and promotive factors that confer resilience) that contribute to developmental outcomes (e.g., Cicchetti, 2006; Fergus & Zimmerman, 2005; Garmezy, 1974; Masten, et al., 1990; Masten, 2013; Rutter, 1979). Risk factors are those considered to increase the likelihood of undesirable or negative outcomes, or which may undermine the positively adaptive function or development of an individual or system (Green et

al., 2004; Masten, 2013; Wright et al., 2013). Examples of risk factors include parental mental illness (Masten & Coatsworth, 1995,1998), catastrophic life events (Wright, Masten, Northwood, & Hubbard, 1997) and low support from peers (Cauce, Stewart, Rodriguez, Cochlan & Ginzler, 2003). In contrast, protective and promotive factors are those that increase the likelihood of positive outcomes (Masten, 2013). Specifically, protective factors are those that attenuate the effect of risk factors in a direct and interactive way (Fergus & Zimmerman, 2005; Masten, 2013; Zimmerman et al., 2013). Examples of protective factors include high levels of parental support (Fergus & Zimmerman, 2005), self-regulation (Lengua, 2002), strong family relationships (Wright et al., 2013) and self-control (Scheier, Botvin, Griffin & Diaz, 1999). Promotive factors are those that contribute to positive developmental outcomes regardless of the presence of risk, thereby compensating or balancing the impact of risk factors at a cumulative level (Fergus & Zimmerman, 2005; Masten, 2013; Zimmerman et al., 2013). Examples of promotive factors include school connectedness (Borowsky, Ireland & Resnick, 2002), prosocial beliefs (Huang, Kosterman, Catalano, Hawkins & Abbot, 2001) and religiosity (Barkin, Kreiter & Durant, 2001).

A distinction between protective and promotive factors is that protective factors may not affect developmental outcomes in the absence of risk, whereas promotive factors load onto positive developmental outcomes with or without risk present (Masten, 2013; Masten & Obradovic, 2008; Wright et al., 2013). An analogy for protective factors can be that of a car airbag (Wright et al., 2013). In the absence of risk, the airbag has no bearing on one's experience; in the presence of risk, however, they can be of dire importance. An analogy for promotive factors can be that of high cognitive ability. With or without risk present, high cognitive ability will promote positive developmental outcomes (Wright et al., 2013).

To further assure clarity of concept with regard to the nature of particular risk or resilience factors under examination, Luthar et al., (2000) suggested the use of suffixes that provide additional specificity. Regarding factors involved in processes wherein the effect of a factor contributes to a generally stabilized outcome amidst increasing risk, this factor can be termed “protective-*stabilizing*” (Luthar, 1993; Luthar et al., 2000). Factors that serve the purpose of strengthening resilience, resulting in “steeling”, can be termed “protective-*enhancing*”, and finally, for protective factors that reduce but do not completely neutralize the negative affect of a risk factor or adversity, the term “protective but *reactive*” can be used (Luthar, 1993; Luthar et al., 2000). Continuing on this line of clarity, factors that confer greater *maladjustment*, “vulnerable-*stable*” could be used when poor outcomes are stable regardless of change and stress and when poor outcomes are greater amidst more stress the term could be “vulnerable and *reactive*” (Luthar, 1993; Luthar et al., 2000). The purpose of using terms with additional specificity, according to Luthar et al. (2000), was to establish classifications, in this case of factors and their respective outcomes through processes, that would provide continuity for research going forward (Luthar et al., 2000).

Identifying these factors initially occurred through research exploring the causality of mental illness and other health problems in the 1960’s (e.g., Luthar 2006; Masten, 2013; Masten, 2001; Masten & Obradovic, 2008; Wright et al., 2013). This initial exploration focused on children whose developmental contexts were full of risk factors, yet their developmental outcomes varied considerably (see Luthar et al., 2006; Masten, 2013). Researchers focused on those young people with more positive outcomes, despite the presence of risk and adversity, with the intention of identifying replicable aspects of their experience that could contribute to the resilience of others (Luthar et al., 2000; Masten, 2013; Yates & Masten, 2004). Throughout the

decades of research on resilience, and despite these best intentions, calls for clarity and critiques of this construct have persisted (Lipsitt & Demick, 2012).

Nuanced and dynamic nature of resilience. At a foundational level, the terminology of resilience has been an issue of contention (Lipsitt & Demick, 2012; Luthar et al., 2000). Masten (1994) initially forwarded that the term “resiliency” be used with caution because its use carries the potential to mislead that it is a discrete personal trait that one either has or they do not (Masten, 1994), a sentiment that Luthar and colleagues (2000) have echoed. Other researchers have conveyed less necessity to distinguish between resilience and resiliency (Lipsitt & Demick, 2012). Lipsitt and Demick (2012) reported that their review of dictionaries, a survey of undergraduates, and a review of the resilience literature from 2010 revealed that lay understandings and academic evidence view resilience and resiliency as indistinguishable—synonymous in their meaning. Whether the term of use is resilience or resiliency, the need for distinction is a part of a broader discussion about the nature of resilience as a construct.

Throughout research into the construct of resilience, capturing the nature of it has incorporated several conceptual underpinnings (Masten, 2007; Masten, 2011). Beyond the aforementioned inconsistency of the correct terminology, researchers have identified multiple dynamics that qualify as resilience (Luthar et al., 2000; Masten, 1994; Masten et al., 1990; Rutter, 1987, 1990). Masten and colleagues (1994, 1990) forwarded that resilience is experienced when: a) individuals have developmental outcomes that are more positive than would be expected given the presence of risk or adversity in their lives; b) positive adaptation and development is maintained despite the presence of stressful circumstances; and c) despite the experience of trauma, good recovery and development occurs (Luthar et al., 2000). Rutter (1987) described resilience as the positive end of a continuum of possible developmental outcomes that

may occur amidst high risk circumstances; and Cicchetti (2010) conveyed resilience as a dynamic developmental process that culminates into positive adaptation in the midst of adversity. In this way, resilience is an ongoing process that is influenced by, but not determined by, early experiences (e.g., Cicchetti, 2010, 2011; Sroufe, 1997; Yates et al., 2003). In other words, patterns of adaptation at an earlier point in someone's life can significantly influence developmental trajectories going forward.

Ultimately, a difficulty in operationalizing and researching the construct of resilience is that it is context-specific (Erdem & Slesnick, 2010; Luthar et al., 2000; Ungar, 2012a, 2012b). It can be challenging to establish a common definition and form of measurement when the context-specific nature of resilience results in differing risk and resilience factors (Erdem & Slesnick, 2010; Fraser et al., 1999; Luthar et al., 2000; Masten, 2001).

Waves of Resilience Research

The body of research on resilience, while it has received criticism as an unnecessary construct, also has been an area of inquiry that has evolved (Lipsitt & Demick, 2012; Wright et al., 2013). Wright and colleagues (2013) attempted to summarize resilience research into four waves, though not specifically to address the challenges of resilience research. Each wave is described in the following pages.

Wave One. The first wave of research was described as focusing on individual resilience and factors that have an impact on developmental outcomes. During this first wave, a host of resilience concepts were established and factors were identified (see Appendix C). The concepts and factors from Wave One are foundational to resilience research (e.g., Luthar, 2006; Luthar et al., 2000; Masten, 2013; Wright et al., 2013). Identifying these concepts and factors informed researchers' recognition that identifying and labeling factors was beneficial to understanding the

important aspects of resilience, and it also clarified that simply recognizing factors was insufficient (e.g., Cicchetti & Curtis, 2006; Masten, 2013; Rutter, 2006). In other words, the concepts of *equifinality* (that varied pathways can result in the same outcome) and *multifinality* (that the same set of factors or circumstances can result in a variety of different developmental outcomes) in and of themselves provide evidence that factors can have different *roles* in outcomes of resilience and non-resilience (Rutter, 1987, 2006). As such, understanding the *role* of factors was as important as identifying the factors themselves (Rutter, 1987, 2006). This recognition, that simply labeling risk and protective factors was not enough, led to further examination of these factors and to a more dynamic understanding of resilience. The call for shifting the questions related to resilience from “what” are the factors that contribute to resilience, to “how” do the factors contribute to resilience signaled the end of the first wave of resilience research and ushered in the second wave (Rutter, 1987, 2006; Masten, 2013; Wright et al., 2013).

Wave Two. The second wave of resilience research was important, not only to understanding the mechanisms and processes that contribute to outcomes of resilience and psychopathology, but also to establish a more dynamic and nuanced understanding of the construct (Cicchetti, 2006; Masten et al., 1990; Rutter, 1987, 2006; Wright et al., 2013). Through this work, resilience is viewed as an outcome that is a part of a distribution of outcomes that depends on the interactions and transactions (i.e., processes) of the factors in oneself, their life and within their contexts (Luthar et al, 2000; Rutter, 1987, 2000, 2006; Wright et al., 2013). These processes include the role of development within biological, social, and cultural contexts as forces that influence outcomes of resilience, normativity and pathology (Cicchetti, 2010; Cicchetti & Curtis, 2006; Rutter, 2006).

Considering resilience across the range of contexts that comprise one's experiences lends itself to taking a multi-level approach to understanding developmental outcomes. Indeed, such an approach has emerged as a guiding principle through which to consider resilience (Cicchetti, 2008). The deliberate inclusion of a multi-level approach to understanding resilience stems in part from the recognition that our biological domains do not function in isolation (Cicchetti, 2010). Instead, it is known that systems function interdependently and influence other systems (Cicchetti, 2010).

Accompanying the shift to recognizing the more complex dynamics of resilience outcomes was the incorporation of developmental systems theories that can accommodate the dynamics that arise across developmental systems (Cicchetti, 2010; Cicchetti & Blender, 2006). Such theories include organizational models of development (Sroufe, 1979) and Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979). In addition to incorporating more dynamic theories to explain developmental outcomes, researchers drew on conceptual models to explain the nature of factors in relation these outcomes (Fergus & Zimmerman, 2005; Luthar et al., 2000; Zimmerman, 2013; Zimmerman et al., 2013).

Models of Resilience. Within Wave Two of resilience research models to explain resilience outcomes were developed to understand processes of how risk and resilience factors contribute to development (Fergus & Zimmerman, 2005; Masten, 2013; Wright et al., 2013). As previously discussed, the research to understand risk and resilience factors helped to identify that some factors have an effect of compensating or balancing the risk by independently promoting wellness (promotive factors), and some factors have a protective, or buffering, quality (protective factors) (Fergus & Zimmerman, 2005; Luthar et al., 2000; Masten, 2013). There are three primary models used to capture the nature of these factors. The compensatory model, the risk-

protective model, and the challenge model (Fergus & Zimmerman, 2005; Garmezy, Tellegen & Masten, 1984; Luthar et al., 2000; Luster, Bates, & Johnson, 2006; Masten, 2013; Zimmerman, 2013; Zimmerman et al., 2013).

Compensatory model. The compensatory model utilizes promotive factors and their compensation of the effect of risk factors to explain developmental outcomes (Fergus & Zimmerman, 2005; Masten, 2007, 2013; Zimmerman, 2013; Zimmerman et al., 2013). Promotive factors are those that enhance the chances of experiencing resilience whether or not risk is present. The overall outcome is therefore dependent on the overall main effect of the independent effect of promotive factors combined with the separate and independent effect of risk factors (Fergus & Zimmerman, 2005; Zimmerman et al., 2013). The compensatory model does not explicitly examine the influence of protective factors. This is different from the risk-protective model of resilience that examines the interaction that occurs directly between protective factors and risk factors (Fergus & Zimmerman, 2005; Luthar et al., 2000; Zimmerman et al., 2013). This distinction is important because understanding how a resiliency factor functions will inform the implementation of interventions to promote resilience outcomes.

Examples of promotive factors include family connectedness and parental involvement with school having a compensatory effect on the negative effects of substance abuse (Fleming, Kim, Harachi & Catalano, 2002). Family socioeconomic status (Magnani, Seiber, Gutierrez & Vereau, 2001) and parental monitoring (Rai et al., 2003) have been shown to compensate for the risk of peer sexual behavior for adolescents. Also, paternal support and parental monitoring have been shown to compensate for peer violent behavior (Howard, Qiu & Boekeloo, 2003; Zimmerman, Steinman & Rowe, 1998). These are all examples of promotive factors that support the experience of resilience in a manner independent of the effect of a factor of risk or adversity.

Risk-protective model. In the risk-protective model, protective factors have a direct, moderating effect on the impact of risk factors on developmental outcomes (Fergus & Zimmerman, 2005; Zimmerman et al., 2013). Whereas promotive factors contribute to resilience outcomes through independently loading related to the main effect (which may or may not completely offset the effect of risk), protective factors moderate risk interactively (Rutter, 1987; Zimmerman, 2013; Zimmerman et al., 2013). Examples of protective factors include family income having been shown to moderate the relationship of use of alcohol and marijuana among adolescents and neighborhood problems (Duncan, Duncan & Strycker, 2000) and the association between stress and socioeconomic status is mediated by active coping (i.e., John Henryism) among urban youth (Schmeelk-Cone, Zimmerman & Abelson, 2003).

Challenge model. The last model of resilience is the challenge model (Fergus & Zimmerman, 2005; Garmezy, Masten & Tellegen, 1984; Zimmerman et al., 2013). This model views moderate amounts of adversity as resulting in less negative outcomes because individuals are forced to cultivate resiliency skills and subsequently put them into practice (Fergus & Zimmerman, 2005; Garmezy, Masten, & Tellegen, 1984; Rutter, 1987; Zimmerman, 2013; Zimmerman et al., 2013). The challenge model captures the phenomenon of a “steeling” effect that can result from exposure to manageable adversity (Fergus & Zimmerman, 2005; Rutter, 2000, 2006; Seery, Holman & Silver, 2010; Ungar, 2012). The “steeling” effect is the phenomenon of being confronted with manageable adverse experiences, or risk factors, from which individuals can grow and learn (Garmezy et al., 1984; Rutter, 1987; Ungar, 2012; Zimmerman, 2013). Upon successfully handling encounters with adversity, individuals are better able to handle the same challenges and will have improved their resilience skills to negotiate future adversities and risk factors more efficiently (Garmezy et al., 1984; Rutter, 1987; Ungar,

2012; Zimmerman, 2013). An important aspect, however, is that challenges must be significant enough to warrant the development of additional skills, but not so challenging that the outcome of succumbing to risk factors is more likely (Appleyard, Egeland, van Dulmen & Sroufe, 2005; Garmezy et al., 1984; Rutter, 1987; Zimmerman, 2013).

Testing the different models. To explore models of resilience among runaway adolescents, Erdem & Slesnick (2010) conducted a thoughtful study. Erdem & Slesnick (2010) tested the compensatory, risk-protective and challenge models of resilience to better understand how risk factors (family, conflict, verbal aggressiveness of the adolescent and primary caretaker, and depressive symptoms of the primary caretaker) and protective factors (family cohesion and adolescent's task-oriented coping) contributed to the depressive symptoms of runaway adolescents. Through their analyses, the only model that predicted resilience outcomes was the challenge model (Erdem & Slesnick, 2010). Using hierarchical linear regression, the challenge model (Risk X Risk; $p = .035$) showed, among both female and male participants, that low and high levels of risk were associated with more depressive symptoms and that the greatest resilience to depressive symptoms was observed among those who reported moderate levels of risk (Erdem & Slesnick, 2010).

These models provide a foundation of understanding how risk and resilience factors collectively impact the likelihood of positive or negative outcomes for individuals. Understanding that some resilience factors buffer the detrimental impact of risk factors but have no effect without the presence of risk, while other resilience factors promote wellness regardless of the presence of risk is a valuable nuance to distinguish. Such a distinction can inform activities and interventions. Some interventions can target developing resilience factors to draw on amidst adversity that can serve a protective or buffering function (i.e., protective factors),

while other factors can better serve a promotive function, fostering a quality of thriving in the absence of adversity (Fergus & Zimmerman, 2005). By understanding the different models of resilience and the component structures within each model, practitioners can utilize that which is most suitable and effective.

Wave Three. Having achieved a greater understanding of the nature of factors and processes that contribute to resilience and non-resilience outcomes has led to the third wave of research in resilience (Masten, 2007; Wright et al., 2013). Thanks to a more nuanced understanding of the factors that play a role in experiencing resilience, researchers were able to make concerted efforts to actively promote such resilience experiences (Cicchetti, Rappaport, Sandler & Weissberg, 2000; Luthar, 2006; Masten, 2007). The third wave of resilience research applied knowledge accrued from waves one and two to implement prevention and intervention programs that focused on a range of approaches to reduce the likelihood of vulnerability outcomes and augment the likelihood of experiencing resilience (Wright et al., 2013). These programs included interventions to reduce behaviors associated with negative outcomes (e.g., FAST Track, the Seattle Social Development Project); reduce the adverse effect of disadvantage and poverty (e.g., Head Start, Child-Parent Center (CPC) Program); promote factors or processes related to competence and resilience outcomes (New Beginnings Program); or that have a combination of foci to promote factors and processes related to competence and resilience while simultaneously reducing the presence or effect of risk factors (Reynolds & Ou, 2003; Weissberg & Greenberg, 1998; Wright et al., 2013).

Wave Four. Finally, in the fourth wave of resilience research, the advancement of technology has allowed for additional levels of understanding that extend down to the human cell level (Cicchetti, 2010; Masten, 2013; Wright et al., 2013). The added layer of available

exploration related to the experience of resilience exponentially increases the potential for understanding. Developmental processes can now be examined by focusing on transactions and interactions that involve genes, neurons, systems of neurons, behaviors, experiences, communities, and other aspects of our ecology (Cicchetti, 2010; Cicchetti & Blender, 2006; Curtis & Cicchetti, 2003; Feder, Nestler, & Charney, 2009; Kim-Cohen & Gold, 2009; Lester, Masten, & McEwen, 2006; Longstaff & Yang, 2008; Masten, 2013; Masten & Obradovic, 2008; Norris, Steven, Pfefferbaum, Wyche, & Pfefferbaum, 2008; Sapienza & Masten, 2011).

Genetics x Environment. The ability to assess the role of biology and human genetics has contributed to the overall understanding of resilience (e.g., Cicchetti, 2010). A line of research that has emerged is that exploring the interaction between genetics and environment, or G x E (e.g., Caspi & Moffitt, 2007; Cicchetti et al., 2007; Cicchetti & Blender, 2007; Kim-Cohen & Gold, 2009). The rationale of G x E is that the environmental pathogens that confer disorder are moderated by genes and their role amidst neural substrates and the reactivity of those neuronal systems (Caspi & Moffitt, 2007). Examples of how G x E research can inform practice and intervention can be drawn from contributions by Belsky, Bakermans-Kranenburg and van IJzendoorn (2007) and Boyce and Ellis (2005).

Research has identified that some children are especially sensitive to their context when their genetic expression includes the 7-repeat DRD4 allele (Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2007; Boyce & Ellis, 2005). This genetic profile has been identified as a risk factor because of the greater frequency of externalizing behaviors related to insensitive parenting when this allele was present (Bakermans-Kranenburg & Van IJzendoorn, 2007). On the other hand, when children had this allele and they had sensitive mothers, they showed the lowest levels of externalizing behaviors (Bakermans-Kranenburg & Van IJzendoorn, 2007; Belsky, Bakermans-

Kranenburg & van IJzendoorn, 2007). By identifying genetic characteristics of young people, aspects of their environment and subsequent behavioral outcomes, researchers have greater clarity regarding the ways in which one's developmental experience can be adjusted to improve the likelihood of positive developmental outcomes, like experiencing resilience.

Collectively, these waves of research on resilience have culminated in a greater understanding of the risk and resilience factors that contribute to outcomes of resilience or succumbing to factors of risk. In addition to the overall understanding that has arisen from this body of research is a theory of resilience, something identified as lacking by some who view resilience as a construct that is unnecessarily considered distinct from general positive adjustment outcomes (Lipsitt & Demick, 2012; Zimmerman, 2013).

Resilience theory. While the exact definition of resilience has been refined over time to reflect the advances made in this field of inquiry (e.g., perspective, technology), resilience theory has consistently included the quality of positively adaptive outcomes amidst stressful or adverse circumstances (e.g., Masten, 2007; Masten & Wright, 1998; Zimmerman, 2013; Zimmerman et al., 2013). Resilience theory draws upon several models (e.g., compensatory, protective, challenge) to explain the dynamics of factors and processes and their interactions and transactions that confer positive developmental outcomes (Zimmerman, 2013; Zimmerman et al., 2013). Resilience theory clearly delineates positive outcomes amidst challenge or adversity as an essential lens to apply to research in the field. Having established core aspects of resilience, an added conceptualization of resilience as a construct will be forwarded.

Current Conceptualization of Resilience. Since its conception, resilience has received considerable attention as a construct that accounts for positively adaptive outcomes despite the presence of risk factors (e.g., Garmezy, 1971, 1983; Ungar, 2011; Werner & Smith, 1982). While

definitions of resilience have already been established, two aspects of resilience are less explicitly incorporated in these definitions: the inherent quality of thriving and the impermanence of resilience as an experience. For this paper resilience will be defined as encompassing both the construct of returning to a previous state after exposure to significant adversity and daily life stressors as well as the growth that can occur *beyond* a previous state as a result of encounters with adversity and daily life stressors (Carver, 1998; O’Leary & Ickovics, 1995; Rutter, 1985; Steinhardt & Dolbier, 2008; Zimmerman, 2013).

The literature has previously suggested that two separate terms be used to illustrate a return to homeostasis—*resilience*—and growth beyond a previous state—*thriving* (Carver, 1998; O’Leary & Ickovics, 1995; Steinhardt & Dolbier, 2008). This presumes that one’s previous state was their completed self and growth that occurs beyond that completed state, through exposure to adversity, is a unique and different construct (i.e., thriving). The view of this author is that thriving is *part* of the ongoing development that occurs while one is alive and that such continued growth is an example of the persistence that is part of experiencing resilience. In this way, thriving is a part of resilience. For that reason, the construct of resilience for this paper will be the process and subsequent outcome of employing reasoning, resources, and routines (i.e., resilience factors) that support withstanding, adapting positively and thriving during and after encounters with daily stressors and significant adversities (i.e., risk factors) as well as in the absence of such stressors.

In addition to an understanding of resilience that includes the quality of thriving, unless otherwise stipulated, the concept of resilience in the present paper will be referred to in terms that acknowledge its fleeting nature. In other words, language describing an *experience* or *episode* of resilience is preferred over language suggesting traits or an automatic or enduring

nature (Zimmerman & Arunkumar, 1994). Similar to language used to describe the fleeting and temporary nature of “tough times” for adversity and circumstances of risk or challenge, so too should language that has a fleeting quality be used in describing resilience as it is also temporary, and therefore an episode or experience (Magyar-Moe, 2015).

This is because resilience is both an outcome and a process (Rutter, 1987, 2006). Through this process, and to achieve an outcome of resilience, a collection of internal and external resources, skills, and strategies must be drawn upon. Doing so best ensures the experience of positive adaptation in the presence of adversity or growth in the absence of such adversity. Resilience is not a goal or destination obtained by meeting certain prerequisites or by checking certain boxes. Rather, it is an experience beheld through the deployment of resilience skills. If individuals have access to every resilience factor or skill known, yet enact none and are idle in their agency, the experience of resilience is unlikely to occur. For this reason, providing individuals with resilience skills and knowledge around their experience of stress and how they can incorporate their developed skills in support of their wellness has great worth (Conley, Travers et al., 2013; Ungar, 2012a).

Resilience as a support for college students

Resilience applies to multiple environments. Researchers recognize that resilience exists across multiple contexts, both culturally and regarding social-ecology (Ungar, 2012a, 2012). As such, fostering resilience skills can be achieved in multiple settings and at multiple levels and the skills and strategies that promote the experience of resilience can apply to multiple contexts (Ungar, 2012a, 2012). Such an intentional approach to teach a set of foundational resilience skills, accompanied by education and awareness of the diversity of stressors one can

encounter, can prepare individuals for the variation of challenges that lie ahead (Smith & Ascough, 2016).

An example of a resilience intervention that drew on a universal approach to teach resilience skills was that of Cook and colleagues (2016). Recognizing the importance of educator resilience as a means of being optimally effective with their students, Cook et al. (2016) integrated practices from different theoretical underpinnings to create a resilience package to support teachers, the ACHIEVER resilience curriculum (ARC). The ARC is a collection of eight practices of resilience that have been shown to promote physical and/or psychological wellness (Cook et al., 2017). In their study, Cook et al. (2017) taught a cohort of secondary teachers the ARC and compared outcomes of job-related stress, teacher-efficacy, teacher intention to implement evidence-based practices, job satisfaction and the acceptability, feasibility and effectiveness of the ARC with a control group. The treatment group showed significant gains on indicators of effective teaching, specifically, significant reductions in job-related stress, improvements in teaching self-efficacy, and stronger intentions to implement classroom practices that are evidence-based (Cook et al., 2017). Preliminary conclusions that can be drawn from this study is that teachers are a population that is often overlooked and that has received little attention as a population that needs resilience support—similar to that of college students.

This intervention provides evidence for the growing understanding of resilience and the potential for teaching skills that can be utilized in various settings (Cook et al., 2017; Smith & Ascough, 2016). The elements of the ARC program were drawn from theoretically diverse constructs and from diverse populations (Cook et al., 2017). The participants from this study were teachers from the same district, yet from different schools (Cook et al., 2017). Therefore,

their experiences and environments were unique, and thus showing the robust effectiveness of the ARC program (Cook et al., 2017).

What we do know. Thanks to continued and determined efforts to understand resilience, the construct has a healthy foundation of fundamental concepts (e.g., Cicchetti, 2010; Luthar, 2006; Luthar et al., 2000; Masten, 1990; Rutter, 1987, 2000, 2006; Wright et al., 2013). While not absolute, these include largely accepted definitions and terminology, understandings of characteristics related to factors of risk and protection or promotion, models to understand resilience, and an understanding of the transactional and dynamic nature of resilience (e.g., Cicchetti, 2010, 2011; Fergus & Zimmerman, 2005; Luthar, 2006; Ungar, 2012; Wright et al., 2013; Yates et al., 2003). In addition to an established fundamental understanding of resilience, knowledge gleaned from the waves of resilience research discussed previously included the importance of timing for implementing a resilience intervention (Wright et al., 2013).

Timing is Important. With the advancements in understanding of resilience related to its developmental nature, the importance of the timing of intervention has become clearer (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). One aspect of timing has to do with the possibility of potentiation, or a cascade effect (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). This developmental phenomenon holds that early development, or lack of development of foundational resilience skills, strategies or resources, can snowball and lead to exponentially greater deficits or strengths, depending on whether the early developmental aspects relate to resilience outcomes or not (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). This aspect of timing pertains to the windows of development wherein young people are particularly malleable and can easily adopt skills and strategies that are akin to more resilience or

pathological outcomes (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). In addition to the aspect of timing that relates to the malleability aspect of development, there is an aspect of timing that relates to the occurrence of meaningful transitions (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013).

Interventions that are introduced during times of known adversity throughout development can yield meaningful outcomes that also have cascading effects (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). Such intentionally timed interventions have the potential to introduce and foster skills that have particular relevance for a particular set of circumstances and can also enhance resilience skills overall that can benefit individuals in multiple contexts (Cicchetti, 2010; Masten et al., 2006; Masten & Cicchetti, 2010; Wright et al., 2013). Entering, experiencing, and departing from college are all meaningful periods of development that arise when attending college. In this way, introducing an intervention during college is an ideal time to support a population who has a high likelihood of encountering stress and adversity and who will have the opportunity to develop these skills from the standpoint of the challenge model of resilience (Fergus & Zimmerman, 2005).

What we don't know. While the field of resilience research has yielded many certainties that can inform development of interventions to promote resilience (e.g., the importance of timing, the positive effect of protective factors), there continues to exist gaps in this field as well (Cicchetti, 2010; Fergus & Zimmerman, 2005). Understanding how resilience interventions benefit certain populations and what specific aspects of an intervention are palatable and relevant can strengthen efforts to promote resilience. This is where more work can be done.

Gaps in the Field. It is clear that resilience has been beneficial for a range of populations and yet, research regarding resilience with a youthful population that faces challenges associated

with transition and a host of other stressors is underdeveloped, especially that of college students (Conley, Travers et al., 2013). Scant research has examined the utilization of a college class as a means to foster resilience skills, strategies and factors among college students (Conley, Travers et al., 2013; Shatkin et al., 2016; Steinhardt & Dolbier, 2008). Further, little is known from the perspective of the students as to whether the content and class was considered acceptable or appropriate (Davis, 1993).

Variables to Explore. When developing interventions, it is important to learn not only about the outcomes of the intervention as they pertain to program aims, but also to learn about whether an intervention is palatable or relevant to participants (Davis, 1993). As such, learning from study participants about the acceptability and appropriateness of an intervention is essential. The *acceptability* of an intervention pertains to how agreeable, palatable, or satisfactory participants perceive a treatment, intervention, or service to be. This is important because no matter how effective an intervention may be, should it be entirely aversive, its utilization will be undermined. The *appropriateness* of an intervention pertains to the degree to which the program is relevant to, a perceived fit for and compatible with the life and stressors of participants—in this case, those encountered as a college student (Davis, 1993). In addition to these preliminary variables to consider, understanding where an intervention is in a process of development is essential to its evolving from foundational research and initial inception to replicability and scalability (Fishbein et al., 2016). A model to guide intervention development and implementation has informed the present study and will be covered in the following paragraphs.

Exploration of what works. To better understand whether there is promise for an intervention and in what ways, research that explores these aspects of interventions is important.

The advent of programs and interventions that have the potential to be scaled more widely often meet barriers to reach their potential (Fishbein et al., 2016; Sussman, Valente, Rohrbach, 2006). Indeed, advances in research that illuminate fundamental understandings of biological, social, and behavioral health can take decades before they are accessible to the public or part of routine practice in general (Fishbein et al., 2016; Sussman et al., 2006). Such delays can interfere with the timeliness of interventions that could otherwise have an immediate impact on supporting the mental health and wellness of a population (Fishbein et al., 2016; Sussman et al., 2006).

To address these delays and increase the efficiency with which initial scientific discoveries are utilized, Fishbein et al. (2016) forwarded a translational spectrum model of prevention science. The translational spectrum model outlines six stages that are involved with bringing findings from research on neurological and behavioral health to practices that can be implemented preventively to promote wellness. After and between each stage there is an effort to incorporate a reflective practice, or back translation. The ultimate goal of the model is to guide scientific efforts so they can benefit the public and reach a state of globalized normalcy (Fishbein et al., 2016).

The first of these stages, Type 0 Translation, accounts for the fundamental phase of any intervention or preventive practice using findings from research in biomedical, social, and behavioral sciences to inform the development of interventions and practices for use with human beings (Fishbein et al., 2016). Included in this type of research are initial and replicated findings pertaining to a particular phenomenon that can then be used at the next phase of applied research and the development of preventive interventions. Type 1 Translation includes drawing on applied theory to inform the development of methods and programs, but not yet reaching the point of implementing programs. Additional characteristics of Type 1 Translation studies include a smaller scope and less rigor than those using randomized control trials. Type 1 translation furthers

understanding of mechanisms of behavioral health that can be subsequently incorporated in intervention development and refinement (Fishbein et al., 2016).

At Type 2 Translation program development progresses to implementation with the outcome to revise and develop a finalized and packaged curriculum for efficacy trials. At this stage, efforts to determine program effectiveness and establish internal and external validity are emphasized. Type 3 Translation is the practice-orientated stage wherein efforts to determine program replicability and efficacy in real-world settings are the focus. In other words, the goal of Type 3 Translation is for practices to become evidence-based and implemented at a systemic level to address the wellness of individuals and populations (Fishbein et al., 2016).

Type 4 Translation is the stage at which practices are considered applicable to both research and non-research settings and have become part of policy considerations (Fishbein et al., 2016). In this way, Type 4 Translation becomes a part of the infrastructure that individuals experience and is self-sustaining from a financial and maintenance standpoint. Finally, Type 5 Translation is the stage at which practices deemed efficacious at local and national levels are implemented at a globalized level. This type of translation has reached the stage of universal value that is now being adapted to have cultural relevance while retaining the core focus. By applying a model for translating research from its inception to being realized that a global level Fishbein et al. (2016) developed a roadmap to guide research efforts to support populations at large. It is within this Translational Spectrum model that this study will be presented.

Statement of the Problem

As discussed, college is filled with stressors that can be a mere challenge for some and trigger more detrimental conditions in others (Ramler, Tennison, Lynch & Murphy, 2016). These stressors include but are not limited to interpersonal stressors, changes in sleep patterns, and

academic and financial concerns (Dusselier et al., 2005; Ramler et al., 2016; Ross, Niebling & Heckert, 1999). Further, the age of most young people who attend college is also the age wherein the onset of mental disorder peaks (Dray et al., 2017; Patel et al., 2007; Reavley & Jorm, 2015). Despite the availability of mental health resources to students on campus, less than 10% access those resources (Blanco et al., 2008; Reetz, Krylowicz, & Mistler, 2014; Rosenthal & Wilson, 2008). Given this small percentage of students who access mental health supports, it is important to draw on a proactive approach to reach as many students as possible (Conley, Durlak et al., 2013; Kazdin, 2008).

Experts in the field of mental health recognize that drawing on institutions of education to provide mental health supports could prove valuable for several invested parties (Owens & Murphy, 2004), especially to students who may not otherwise access, or be able to access, such supports (Owens & Murphy, 2004). In addition to the value added by including mental health supports in school-based settings, doing so with the support of students, staff, and administrators offers great potential to enmesh these supports at a systemic level (Conley, Durlak et al., 2013). As Conley, Durlak and colleague (2013, p. 298) pointed out, "...course offerings provide a promising format for delivering effective interventions.", and that, "higher education institutions would do well to offer more courses..." with supervised practice of skills such as mindfulness or acceptance based behavioral therapies (ABBT) strategies (Glassman et al., 2016; Kabat-Zinn, 2003). Despite the recognized promise for such college classes, there is a dearth of research identifying their offerings and exploring their effectiveness, acceptability and appropriateness.

Study Purpose

The purpose of the present study was to explore the potential promise, acceptability and appropriateness of a resilience intervention delivered as a 10-week course among 18-24-year-old

college students. Based on the literature, there is a need to provide mental health supports among college students, and to do so in ways that leverage existing access points (Conley, Durlak et al., 2013; Kazdin, 2008). Further, there is a gap in the literature regarding universal preventive resilience interventions targeting college students. By offering a class for credit (thereby drawing on an existing access point) that focuses on developing resilience, the present study extends the existing body of literature regarding the promotion of mental health among college-student populations and furthers the development of an institutionally implementable resilience program (Conley, Travers et al., 2013; Reavely & Jorm, 2015).

Research Questions and Hypotheses

The purpose of the present study was to explore the potential, acceptability and appropriateness of a resilience intervention delivered to undergraduate students in the form of a college course. This study is considered to be at a Type 1 Translation stage within the Translational Spectrum model based on its exploratory purpose and because it is not yet ready for efficacy trials (Fishbein et al., 2016). This study was guided by 5 research questions. Three questions were quantitative and two were qualitative. The general hypotheses of the present study was that students who took the resilience class would perceive lower levels of stress, perceive themselves to have increased capability to experience resilience, perceive increased satisfaction with life and perceive that the class was acceptable and appropriate. Quantitative questions were drawn on to determine the potential promise of the course and qualitative questions were drawn on to understand the acceptability and appropriateness of the course. The following research questions will be addressed in the present study:

Question #1: What is the impact of exposure to a resilience intervention in the form of a credit/no-credit class, on the perceptions of stress among undergraduates at a Division I institution compared to undergraduates not exposed to the THRIVE resilience curriculum?

Rationale for question #1: The rationale for this question is based on previous investigations that observed reductions in perceived stress among undergraduate students who received resilience interventions, however, the interventions have been mixed in their format (Conley, Travers et al., 2013; Shatkin et al., 2016; Steinhardt & Dolbier, 2008). It is hypothesized that students in the experimental group will perceive less stress from pre- to post-intervention compared to the amount of stress reported by the control group.

Question #2: What is the impact of undergraduate students' exposure to a universal resilience intervention at a Division I institution on their perceptions of their own capacity to experience resilience compared to those of undergraduate students who received no exposure to the THRIVE resilience curriculum?

Rationale for Question #2: The rationale for this question is that, to date, regarding perceptions of a capacity for experiencing resilience, measured by using the Brief Resilience Scale, there has been little to no research evaluating the effectiveness of a resilience intervention for college students delivered in the form of a credit/no-credit class. The hypothesis for this question is that students from the experimental group will report perceptions of increased capability to experience resilience from pre- to post-intervention compared to perceptions reported by the control group.

Question #3: What impact did undergraduate students' exposure to a universal resilience intervention at a Division I institution have on their reported satisfaction with life compared to reports from undergraduates not exposed to the THRIVE resilience curriculum?

Rationale for Question #3: The rationale for this question is that, by including a measurement aside from resilience that can be considered a positive indicator of wellness, findings from this study can go beyond detecting the absence of negative indicators of illness (i.e., perceived stress) to learn whether the curriculum correlated with promoting an indicator of wellness. To date, there has been little to no research evaluating the effectiveness of a resilience intervention for college students delivered in the form of a credit/no-credit class supporting satisfaction with life. The hypothesis for this question is that students from the experimental group will report increased satisfaction with their own lives from pre- to post-intervention compared to those reported by the control group.

Question #4: What do students enrolled in a universal resilience intervention as a college course at a Division I institution have to say about the acceptability of the content to which they are introduced?

Rationale for Question #4: Learning whether the THRIVE resilience curriculum is acceptable or not is important to determine needed revisions due to the importance of intervention acceptability to the adoption of intervention practices. The hypothesis for this question is that students will consider the THRIVE curriculum to be acceptable given the findings of previous research looking at a similar resilience curriculum (Cook et al., 2017). This research found that teachers who received the ARC resilience curriculum found the content to be acceptable.

Question #5: What do students enrolled in a universal resilience intervention as a college course at a Division I institution have to say about the appropriateness of the content to which they are introduced?

Rationale for Question #5: The rationale for this question is that learning whether the intervention is considered appropriate is important to informing whether it has relevance and therefore a place amongst college students. Similar to the construct of acceptability, the hypothesis for this question is that students will consider the THRIVE curriculum to be appropriate given the findings of previous research looking at a similar resilience curriculum (Cook et al., 2017). This research found that teachers who received the resilience curriculum found the content to be appropriate.

Chapter III: Methodology

Setting and Participants

This study took place at a University in the Northwest region of the United States of America. Students were recruited to enroll in the course through the athletic department and from the College of Education and it was open to all undergraduate students. The THRIVE curriculum originated as a partial course co-offered with a sport performance class taught by the Sport Psychologist in the athletic department. In addition, advisors in Student-Athlete Academic Services and other undergraduate student services departments were made aware of the course availability. No more than half of the allotted slots for the class were offered to student-athletes through priority registration. The THRIVE resilience curriculum that originated in the athletic department as a partial course was the foundation for the full course that was the study intervention and that was offered through the College of Education for undergraduates. Study participation was limited to students ages 18-24-years. Beyond the age range of study participants, no other demographic data were collected due to the heightened visibility of student-athletes and a concern that their added visibility may reduce the maintenance of their anonymity if too much demographic information were captured. A control group was comprised of students from classes known to have a high enrollment of student-athlete undergraduate students. The treatment group were those students enrolled in the intervention course.

Procedures

The procedures for this study were approved by the Institutional Review Board at the University. A non-randomized pre-post control group design with mixed quantitative and qualitative data collection was employed to address the research questions of this study (Creswell, 2007). The intervention group and control groups were administered pre-and post-test

measures during weeks 1 and 10 of the academic quarter with the THRIVE curriculum implemented between test administrations for the treatment condition. Enrolled study participants were provided with the purpose of the resilience intervention and given information about the scope of the study overall. All students in the course were presented with forms detailing their participation and given the opportunity to ask questions. Further, it was made clear to students enrolled in the resilience class that if they chose not to participate in the survey they may still be enrolled in the course and that their grades would not be affected in any way.

Data Collection. The surveys were administered and data collected online using a secure program through the University. When study participants agreed to proceed in answering survey questions, they were informed that they are then consenting to study participation. They were provided with a digital copy of the informed consent (Appendix D) containing the information previously explained to them before starting the survey.

Data was collected from self-report measures exploring perceived levels of stress, perceived capacity for experiencing resilience, and satisfaction with life. Qualitative data were collected from student discussion-forum responses pertinent to whether lessons were considered *acceptable* and *appropriate* (Davis, 1993). The question, *How did the lesson go for you this week?* was asked to determine whether the intervention was considered acceptable. And the question, *How do you think this lesson could help you in your life?* was asked to determine whether the intervention was considered appropriate. Pertinent responses to each of these questions were the units of analysis for acceptability and appropriateness.

Measures

Perceived Stress Scale (Cohen, 1983). The Perceived Stress Scale assesses the level of stress experienced over the course of the previous month. Questions target the actual stress

experienced, whether subjects felt they had the resources to handle personal problems, the degree to which participants can manage their emotions, and how able participants felt they were to handle problems. This scale consists of 10 items, each using a 5-point Likert-type scale (never, almost never, sometimes, fairly often, very often).

Brief Resilience Scale (Smith, Dalen, Wiggins, Tooley, Christopher & Bernard, 2008).

The Brief Resilience scale assesses participants' ability to bounce back in the face of adversity. Questions include how long it takes for participants to recover from stressful events, how regularly they can negotiate difficult times, and how difficult it is to respond positively in the face of setbacks. This scale consists of six items, each using a 5-point Likert-type scale (strongly disagree, disagree, neutral, agree, strongly agree).

Satisfaction with Life Scale (Diener, Emmons, Larson, & Griffin, 1985). The Satisfaction with Life Scale assesses participants' satisfaction with their lives. Items in this scale ask participants to rate how close their life is to their ideal, how excellent their conditions in life are, and how satisfied with their life they are. Research using the Perceived Stress Scale (Cohen, 1983) and Satisfaction with Life Scale found a significant negative correlation ($r = -.48, p < .001$). This scale consists of 5 items, each using a 7-point Likert-type scale (strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree, strongly agree).

Data Analysis

Quantitative analyses. To evaluate the potential promise of the THRIVE resilience program inferential statistics were calculated. T-tests and ANCOVAs were computed to systematically examine the extent to which participants who received the THRIVE program demonstrated significant improvements compared to those who did not receive the curriculum.

Two t-tests were computed for each of the dependent variables. The first t-test examined whether there are baseline differences between the treatment and control conditions. Non-significant t-tests were followed up with t-tests comparing differences in change scores between the intervention and control conditions. Change scores were calculated by subtracting baseline scores from post-intervention scores.

In addition, ANCOVAs were also performed for each dependent variable with baseline score differences between the two groups being controlled. Last, to estimate the magnitude of the effect associated with the THRIVE curriculum, standardized mean difference effect sizes (SMDES) were computed. Specifically, the following formula was used as it controls for preexisting differences between intervention and control groups (Morris, 2008).

$$\text{SMDES} = \left[\frac{(M_{\text{post.T}} - M_{\text{pre.T}}) - (M_{\text{post.C}} - M_{\text{pre.C}})}{SD_{\text{pre}}} \right]$$

All assumptions for conducting t-tests and ANCOVAs were examined. It is important to note that one of the benefits of the chosen inferential analyses is that they are considered sturdy in the face of mild violations to the underlying assumptions (Montgomery, 2013). Assumptions for normality were determined to be met through analyzing the distributions of the dependent variables using stem and leaf and box plots (Montgomery, 2013). The data were examined for outliers, and outliers were handled by winsorizing them to the closest reasonable value to reduce the effect of spurious outliers. Also, equal variances between conditions were assessed via the Levene's test (Lomax & Hans-Vaughn, 2012).

Qualitative analyses. Research questions pertaining to the acceptability and appropriateness of the THRIVE curriculum were analyzed using a directed content analysis qualitative approach (Davis, 1993; Hsieh & Shannon, 2005). Directed content analysis is a form of qualitative analysis that draws on a priori knowledge and previous research to detect

predetermined aspects of qualitative content (Hsieh & Shannon, 2005; Snell, Sugenor, Dorahy & Hay-Smith, 2014). Often utilized to refine a theory or phenomenon, the use of a directed content analysis for the present study was to understand the acceptability and appropriateness of the THRIVE curriculum (Davis, 1993; Hsieh & Shannon, 2005). Treatment acceptability captures how agreeable, palatable, or satisfactory participants perceive a treatment, intervention, or service to be (Davis, 1993). Given the developmental phase of the THRIVE curriculum, understanding how acceptable participants consider it to be was essential given that a lack of acceptability can undermine implementation success (Davis, 1993). Similarly, due to the developmental phase of the THRIVE curriculum, determining the appropriateness of the THRIVE curriculum will inform the degree to which the program is relevant to, a perceived fit for and compatible with the life and stressors encountered as a college student (Davis, 1993).

To obtain the perceptions of participants from the treatment condition regarding the acceptability and appropriateness of the THRIVE curriculum, they responded to two questions in class discussion forums for each of the eight content lessons: *Establishing a Sense of Purpose* (SOP), *Willpower, Mindfulness, Practicing Gratitude, Identifying Unhelpful Thoughts and Shifting them to be more Helpful: Flipping the Scrip* (FTS), *Managing Intense Negative Emotions* (MINE), *Establishing Resilient Relationships* (RR), *The REFRESHER Approach to Self-Care* (REFRESHER). Responses to questions “How did the lesson go for you this week?” and “How do you think this lesson could help you in your life?” in the discussion forum were analyzed to determine intervention acceptability and appropriateness, respectively.

Responses that were included for lesson acceptability explicitly stated or clearly conveyed that the lesson was satisfactory, agreeable, and/or palatable or not so. Responses that were included for lesson appropriateness explicitly stated or clearly conveyed that the lesson was

relevant to, a perceived fit for, compatible with or incompatible with one's life. All responses that were pertinent to questions of acceptability and appropriateness were the units of analysis and ranged from several words to several sentences. Not all participants' responses provided a discernable affirmation or opposition about whether the intervention was acceptable or appropriate. Such responses were not included in the analysis. Analysis was conducted by an individual trained in qualitative analysis and knowledgeable about the field of resilience.

IV: Results

The results from the present study are based on quantitative and qualitative data from the treatment versus control group conditions. The quantitative data was drawn from responses to measures of perceived stress, perceived capacity for experiencing resilience, and reported satisfaction with life measures. Qualitative data were drawn from responses to questions that targeted intervention acceptability and appropriateness.

Quantitative Analysis

Descriptive statistics pertaining to pre, post and change scores on scales for perceived stress, resilience and satisfaction with life for the treatment and control groups are reported in Table 1. Pre-treatment t-tests were conducted to determine whether there were differences between the control and treatment groups at baseline. There were no significant differences in means between the treatment and control groups at baseline on any of the outcome variable measures. On the PSS, which has a possible low score of 0 and a possible high score of 40, the mean score for the treatment group ($N = 45$) was 19.82 ($SD = 5.87$) and for the control group ($N = 65$) the mean score was 17.76 ($SD = 5.72$), [$t(111) = 1.85, p = .07$]. For the BRS, which has a possible low score of 1 and a possible high score of 5, the mean score for the treatment group ($N = 43$) at baseline was 3.35 ($SD = .78$) and the mean score for the control group ($N = 66$) at baseline was 3.35 ($SD = .68$), [$t(107) = -1.19, p = .24$]. Finally, regarding the SWLS, the possible low score is 5 and a possible high score is a 35. The mean score for the treatment group ($N = 45$) on the SWLS was 24.24 ($SD = 5.6$) and for the control group ($N = 65$) it was 24.75 ($SD = 5.7$), [$t(108) = -.46, p = .64$].

Question #1. *What is the impact of exposure to a resilience intervention in the form of a credit/no-credit class, on the perceptions of stress of undergraduates at a Division I institution*

Table 1.

Table 1. Baseline Descriptive Statistics									
Variable	Treatment Condition				Control Condition				
	Pre		Post		Pre		Post		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>SD</i>
PSS (<i>N</i> = 45)	19.82	5.87	16.10	5.83	PSS (<i>N</i> = 66)	17.76	5.72	18.08	6.13
BRS (<i>N</i> = 43)	3.18	.78	3.48	.67	BRS (<i>N</i> = 66)	3.35	.68	3.39	.65
SWLS (<i>N</i> = 45)	24.24	5.6	27.16	4.72	SWLS (<i>N</i> = 65)	24.75	5.7	25.61	4.98

Note. PSS = Perceived Stress Scale; BRS = Brief Resilience Scale; SWLS = Satisfaction with Life Scale

compared to undergraduates not exposed to the THRIVE resilience curriculum? Results of the baseline t-tests examining the impact between treatment and control conditions indicated no significant differences, although findings were trending towards significance [$t(111) = 1.85, p = .07$]. Subsequent analysis examining the change score differences between the two groups showed significantly greater reductions in reported perceived stress in the treatment group compared to the control group [$t(107) = -3.83, p < .01$]. Similarly, the ANCOVA results were consistent with the t-test on change scores, with the treatment group reporting significantly lower ratings of perceived stress at post-test after controlling for baseline differences than the control group [$F(1, 109) = 11.11, p < .01$]. The estimated SDMES was $-.68$, indicating a moderate to large effect size according to guidelines established by Cohen (1988). See Table 2.

Question #2. *What is the impact of undergraduate students' exposure to a universal resilience intervention at a Division I institution on their perceptions of their own capacity to experience resilience compared to those of undergraduate students who received no exposure to the THRIVE resilience curriculum?* Results of the t-tests examining group differences at baseline showed no significant differences between the two groups [$t(107) = -1.19, p = .07$], although baseline values showed a trend for the treatment condition being slightly lower at baseline than

Table 2.

Table 2. Results for t-tests, ANCOVA and SMDES				
Dependent Variable	t-test BSLN	t-test Δ	ANCOVA	Effect Size
PSS	t (111) = 1.85	t (107) = -3.83**	F (1, 109) = 11.11**	-.68
BRS	t (107) = -1.19	t (53.60) = 1.99*	F (1,105) = 3.11	.36
SWLS	t (108) = -.46	t (103) = 2.06*	F (1,105) = 5.18*	.36

Note. * $p < .05$, ** $p < .01$

those of the control condition. Change score differences were significant, with greater increases in change for the treatment condition when compared to the mean change score for the control condition [$t(53.60) = 1.99, p = .05$]. Finally, results from the ANCOVA did not replicate the change score findings, with no significant differences between groups on their resilience post-test scores [$F(1,105) = 3.11, p = .08$]. The estimated SDMES, at $d = .36$, fell in the moderate range for effect sizes (Cohen, 1988).

Question #3. *What impact did undergraduate students' exposure to a universal resilience intervention at a Division I institution have on their reported satisfaction with life compared to reports from undergraduates not exposed to the THRIVE resilience curriculum?* According to results from t-tests examining the difference between treatment and control conditions at baseline were not significant, [$t(108) = -.46, p = .64$]. Findings for the t-tests examining the difference between change scores between the two groups revealed a significant result, indicating that those in the treatment condition demonstrated more change in the favorable direction on the SWLS than those in the control group [$t(103) = 2.06, p = .04$]. Finally, the results from the ANCOVA were consistent with those from the t-test of change scores, with a significant difference at post-test found among the treatment group [$F(1,105) = 5.18, p = .03$]. The SMDES for the SWLS was $d = .36$, indicating an effect that falls within the moderate range (Cohen, 1988).

Qualitative Analysis

Questions #4 & #5. *Question 4 - What do students enrolled in a universal resilience intervention as a college course have to say about the acceptability of the content to which they are introduced? Question 5- What do students who took a universal resilience intervention as a college course at a Division I institution have to say about the appropriateness of the content to which they are introduced?* For purposes of analyzing the acceptability of the THRIVE curriculum, only participant responses that answered the following question were included and qualitatively coded for acceptability and appropriateness: How did the lesson go for you this week? Response to this question were obtained at the end of each THRIVE lesson. In total, there were 600 unique qualitative responses across all lessons that were coded under the intervention acceptability category, with a range of 37 (SOP) to 101 (Practicing Gratitude). Of the 600 responses pertaining to intervention acceptability, 91% (546/600) were coded as affirming that the THRIVE lessons were viewed as acceptable.

For purposes of analyzing the appropriateness of the THRIVE curriculum, only responses to the following question were included and qualitatively coded: How do you think this lesson could help you in your life? There were a total of 605 unique responses obtained across participants and across each of the THRIVE lessons. Unique responses ranged from 32 (SOP) to 100 (Mindfulness). Overall, 99% (599/605) of the unique responses were coded in the affirming category, indicating that participants found the content of THRIVE to be highly appropriate and helpful for their life. See Table 3.

The following examines the acceptability and appropriateness for each lesson and provides examples of affirmational responses. See Table 4 and Table 5.

Table 3. Acceptability and Appropriateness Frequencies

THRIVE Lesson	Acceptability			Appropriateness		
	Total Responses	# Affirming Acceptability	%	Total Responses	# Affirming Appropriateness	%
Sense of Purpose	37	35	95%	32	31	96%
Willpower	58	52	90%	70	68	97%
Mindfulness	97	91	94%	100	99	99%
Practicing Gratitude	101	75	74%	95	95	100%
Flipping the Script	90	83	92%	93	92	99%
Managing Intense Negative Emotions	84	82	98%	90	90	100%
Resilient Relationships	49	46	94%	48	47	98%
REFRESHER	84	82	98%	77	77	100%
Total	600	546	91%	605	599	99%

Sense of Purpose. The first THRIVE lesson is focused on supporting students’ establishing a *sense of purpose*, a combination of their values and their goals. Of the 37 responses to that pertained to this lesson, 35 (95%) of the responses reflected an affirmation that the lesson was acceptable (i.e., satisfactory, agreeable, palatable). For instance, one student reported that,

“Identifying my values and goals went very well. It felt like a breath of fresh air to revisit them and clearly lay them out.”

Another student provided additional perspective on the lesson’s acceptability:

“I thoroughly enjoyed the exercise about sense of purpose this week. It helped me by identifying that my values and goals have evolved over the last 12 months. It provided a clearer scope for what it actually important to me. Since doing the exercise I have noticed a sharper focus and increased motivation...”

These qualitative responses illustrate how satisfactory participants found the SOP lesson. The high percentage of acceptability was accompanied by a similarly high percentage of responses indicating students perceived the lesson was appropriate. Of the 32 responses that pertained to

appropriateness, 31 (96%) affirmed the appropriateness of the lesson. An example of a response reflecting lesson appropriateness was:

“Once I realize my sense of purpose, I have more motivation to work hard and study hard. And it help me deal with my stress and mood because I know how to go through these stresses and deal with the difficulties in my life to achieve the sense of purpose.”

This response provides context about how a student perceives the relevance and fit of this lesson with their life as a college student.

Willpower. Following the lesson on establishing a sense of purpose, the THRIVE curriculum provides education about willpower and its role in self-regulation and supporting wellness outcomes. Responses from study participants about the acceptability of the lesson on willpower yielded 58, of which 52 (90%) affirmed the acceptability of the lesson. One response provided an explanation that captures the lesson’s satisfactoriness:

This week I tried really hard to eat healthy and not procrastinate with my school work. This helped me feel way less stress free because my body felt so much better, and getting my work done on time made me stress less because my work was already done!

Like acceptability, the percentage of responses for the appropriateness of the willpower lesson was the second lowest at 97%. 68 of 70 responses that pertained to the appropriateness of willpower affirmed it as such. An illustration of the appropriateness of willpower was articulated in the following response:

I feel that practicing will power can affect your life immensely. By practicing it, you will have better control over your life because you will be able to think about things before doing them. You will be more conscious about what choices you are taking and actions you are making.

This response captures the relevance of willpower in the near term as well as its benefits for one’s life going forward.

Mindfulness. The third lesson in the THRIVE curriculum is Mindfulness. For this lesson, there were 97 responses that pertained to acceptability, 91 of which (94%) affirmed its

acceptability. The following is an example that articulated how mindfulness is palatable for use in academic settings:

It went great. Something that I started noticing that I do is taking some mindful time before a test. I used to just go to it over-caffeinated and stressed, but now taking some time helped me focus way better.

According to 99% of responses pertaining to mindfulness (99 of 100), the lesson was considered appropriate. One response that articulated how mindfulness can be relevant to a range of circumstances was captured in its description as something that can be utilized in any given moment:

I think practicing mindfulness allowed me to perform better in the thing I was doing at that moment because I wasn't thinking about the future but the now. I feel like it will overall help me with my stress and help me notice the important things at each specific moment in time.

Practicing Gratitude. The fourth lesson in the THRIVE curriculum is focused on practicing gratitude. This lesson received the lowest percentage of affirmative responses. Out of 101 responses, 75 (74%) affirmed that the lesson was acceptable. Examples of student perspectives included ways students practiced gratitude and how it was beneficial to them:

Practicing gratitude went good this week. I practiced gratitude through using thank you notes and being at Awe in the moment. I noticed that I became a bit happier and was able to cope with stress easier.

and,

Practicing gratitude went well. I used a gratitude journal and tried to think of things that I was thankful for. It was easier to think of things that I was grateful for if by thinking of how I would feel without those things. I noticed that I was happier because I was thinking about the things that made me happy and what I was thankful for. It improved my stress level.

Regarding whether practicing gratitude was appropriate for the lives of study participants, 100% (95 of 95) of responses indicated that it was. Responses reflected the benefits of increased happiness and attaining a degree of perspective:

I think practicing gratitude will really help me remember the things that make me happy which will lead to less stress and unhappiness.

and,

I think that practicing gratitude can really help with happiness and mood, it can be really easy to believe that our problems are the worst in the world but being aware and grateful of what we have can keep us from feeling like that.

Flipping the Script. After being exposed to curriculum supporting students' orientation to the positive aspects of their life and situations that arise, they learn about the benefits of reframing their thinking. This is described as flipping the script. Of the 90 responses that pertained to the acceptability of the lesson about flipping the script, 83 of them (92%) affirmed that it was. Among student responses were sentiments about improved mood and the degree to which the content was acceptable:

Flipping the script went great for me. It was crazy to see how my mood could change just by turning a negative thought in my mind to a positive one.

also,

Flipping the switch has really helped me this week. It helps me realize even though one aspect could be bad there are more aspects in my life that are good.

The responses about the appropriateness of lesson on flipping the script indicated that it was a generally suitable and fitting concept to students' lives. 92 of 93 (99%) responses affirmed that flipping the script was an appropriate lesson. One example articulated flipping the script as something that could benefit establishing relationships, an important part of experiencing resilience:

It will benefit me not only with dealing with stress but also in social relationship with others. When I meet someone who has characteristic that I don't like, the flipping script habit will help me and find the good character or benefit of the character that I don't like.

Another response described how flipping the script can benefit one's energy:

I think that flipping the script will help me to maintain a positive outlook in life. Remaining positive will in turn help to keep me from allowing negative thoughts to drain my energy.

Managing Intense Negative Emotions. After the lesson about the benefits of flipping the script, the THRIVE curriculum provides information about managing intense negative emotions. The information includes being preventive in managing such emotions, as well as, supporting efforts to manage such emotions in the moment of distress. 98% of student responses (82 of 84) affirmed that the lesson on managing intense negative emotions was acceptable. Responses included how practices were utilized, indicating their palatability, and how beneficial they were:

This week I engaged in other sensations if I got upset. I'd try to feel the temperature differences or I'd listen to my environment. It helped me not get as sucked in to the negativity. It helped me when I was communicating with others about conflict.

The appropriateness of this lesson was considered among the highest according to the responses. 100% of student responses (90 of 90) affirmed lesson appropriateness. Responses included how appropriate the content is for effectively handling matters in a present moment, as well as to prevent lengthy spells of social emotional struggle:

By managing intense emotions, I will be able to think before I act. For example, if I get frustrated at someone, by managing my emotions, I will be able to think before I react in a negative way.

also,

Managing intense emotions is really going to help me stay out of "funks" that I have. I really let things drag down other areas of my life. However, I'm going to manage those emotions and be able to not only be more persistent when I hit walls in my life, but also be more mentally tough.

Resilient Relationships. The only lesson specifically targeting relationships was the lesson regarding establishing resilient relationships. 46 of 49 (94%) of the responses regarding acceptability affirmed that it was. Responses included how establishing resilient relationships

was helpful for feeling supported and for fortunate individuals are for those they have in their lives:

Social support is something that I feel so blessed to have, and I feel like I have so much of it. Identifying these people really just put me in a great place because it allowed me to realize how lucky I am to have all of these great people in my life.

and,

Identifying social supports actually really helped me take time to reflect on my life and how lucky I am to have the people I have in it. So it went pretty well. Every once in awhile, I can get kind of lonely but then if I stop and think about it, I really do have a whole network of people who care about me. It makes me feel really grateful, and does improve my mood.

The appropriateness of the lesson on resilient relationships was affirmed by 98% (47 of 48) responses. Responses included sentiments of not feeling alone and not losing a sense of self:

Identifying social supports will help people recognize that they aren't alone and they can go and seek help if they need it. Also it is reassuring to know that you have people that will back you up and show you they care.

and,

I think it can make a difference in my life because I'll be able to focus on them and maintaining a healthy relationship for the both of us. It'd also help to remind myself that I do have support and people care about me if I lose track of myself.

REFRESHER. The final content lesson of the THRIVE curriculum is focused on an approach focused on supporting self-care. A large majority of responses (82 of 84, 98%) affirmed the acceptability of the lesson on REFRESHERs. Responses included sentiments about how the REFRESHERs supported being more present and engaging in positive lifestyle changes:

Reflection went well for me this week I noticed that I felt a lot more in the moment rather than having my head in the clouds

and,

I tried to think of all the REFRESHER and tried to follow those and those definitely helped me to be calm and live better. For example, I tried to do more exercise.

Regarding how appropriate the lesson on REFRESHERs was, all responses pertinent to lesson appropriateness indicated that it was (77 of 77). Sentiments included in student responses included the REFRESHER's benefits for academics as well as inner balance:

REFRESHERs can definitely help me with my academics. It can get so stressful to stay on top of or ahead of deadlines, but it is important to take time for yourself in order to function most effectively in other areas of your life, particularly as a student.

also,

I think if I develop a healthy balance between work and time for refreshers it could help me feel more at peace with my inner self.

Results Summary

The results from quantitative and qualitative analyses indicate that the THRIVE curriculum showed promise in terms of reducing perceptions of stress, increasing perceptions of capability to experience resilience and satisfaction with life and whether the condition is acceptable and appropriate. With no significant differences at baseline between the treatment and control groups, the treatment group reported significant differences observed via change scores. The treatment group reported reductions in perceptions of stress with a moderate to large effect size. Similarly, they reported increases in perceptions of their capacity to experience resilience with a moderate effect size, and they reported increases in their satisfaction with life with a moderate effect size.

Regarding qualitative analyses, across lessons virtually all THRIVE lessons were perceived above 90% acceptable, except Practicing Gratitude, which was the lesson considered least acceptable with 75 of 101 (74%). Overall, 91% (546/600) of responses affirmed THRIVE content acceptability. The lessons considered the most acceptable were MINE and REFRESHER, both with 82 of 84 (98%) responses affirming intervention acceptability. For

appropriateness, a total number of 605 responses across the eight content lessons were considered pertinent, ranging from 32 (SOP) to 100 (Mindfulness). The lesson considered least appropriate according to the number of affirmative responses was SOP, with 97% (31/32). There were three lessons that were the most appropriate according to the percentage (100%) of affirmative responses for appropriateness. They were MINE (90/90), Practicing Gratitude (95/95) and REFRESHER (77/77).

V: Discussion, Limitations and Future Directions

The purpose of the present study was to explore the effectiveness of a resilience curriculum that can promote wellness and support mental health through leveraging existing access points. Findings showed promise for the effectiveness and utility of the THRIVE Resilience Curriculum as an intervention to support undergraduate mental health and wellness. By showing significant reductions in perceived stress, significant increases in perceived capacity to experience resilience, and significant increases in satisfaction with life compared to a control group, participants who were exposed to the THRIVE Resilience Curriculum demonstrated meaningful changes in their indicators of wellness. Specifically, drawing on the dual-factor model of mental health, the treatment group showed meaningful reductions in symptomology associated with mental illness and meaningful increases in indicators of wellness. Given the certainty of encountering adversity in college, supporting undergraduates in ways that mitigate the harmful effects of those adversities (i.e., negative stress) and that promote aspects of their experience to foster wellness can make up a potent intervention.

As discussed, starting college can be an exciting time as well as a time of considerable turmoil. A variety of academic, intrapersonal, interpersonal, developmental, environmental and emotional stressors can arise during college (e.g., Conley, Travers et al., 2013; Conley, Durlak et al., 2013; Dusselier et al., 2005; Steinhardt & Dolbier, 2008). Individually and collectively, these stressors can contribute to social emotional struggles while attending college (Conley, Travers et al., 2013, Conley, Durlak et al., 2013; DeRosier et al., 2013; Kisch et al., 2005). Many young people experience social emotional struggles during college despite efforts and resources devoted to supporting students their wellness (Blanco et al., 2008; Cook, 2007; Corrigan et al., 2000; Eisenberg et al., 2012; National Alliance of Mental Illness (NAMI), 2004). This is because

of a failure on the part of undergraduates to connect with resources and supports due to reasons that include stigma and lack of awareness (Corrigan et al., 2000; Yorgasen et al., 2008). As such, the literature on supporting mental health among undergraduate students recommends finding ways to leverage existing access points to reach students (Conley, Travers et al., 2013; Kazdin, 2008). The present study met this recommendation and investigated the effects of the resulting intervention. The research questions guiding the present study focused on whether there were any changes among students who received the THRIVE resilience curriculum compared to students who did not. These changes were measured using quantitative and qualitative analyses, and showed great promise regarding the impact and implementation as a college course. Detailed implications are discussed below.

Research Question 1: Perceived Stress

Findings for the first research question revealed that students who received THRIVE Resilience Curriculum reported significant reductions in perceived stress. In addition, differences were observed at post-test in favor of participants of the treatment group who reported significantly lower perceptions of stress than those in the control group. This effect was associated with a moderate to large effect size of $-.69$, indicating a meaningful and noticeable difference favoring the participating students in the treatment condition.

Consistent with previous research, the findings from the present study suggest that exposing undergraduate students to psychoeducation pertaining to stress and resilience, as well as strategies for coping with their stress and experiencing resilience, can lead to reductions in self-reported stress (Conley, Travers et al., 2013; Shatkin et al., 2016; Steinhardt & Dolbier, 2008). This finding is promising because of the established links between stress and more severe outcomes such as hopelessness, depression, drop-out and suicide (Anisman, 2015; Bettis et al.,

2017; Grant et al., 2003; Hartley, 2012; Kisch et al., 2005). Considering the role stress can play in suicide, the onset and exacerbation of mental illness, as well as being a leading contributor for academic struggles and dropping out, mitigating the negative side effects of stress is of critical importance (Anisman, 2015; Bettis et al., 2017; Grant et al., 2003; Hartley, 2012; Kisch et al., 2005; Wong et al., 2006).

Beyond consistent findings with previous resilience studies among undergraduates, this result extends previous work by showing a significant reduction in perceived stress through a proactive means of a for-credit class. Steinhardt & Dolbier (2008) delivered a 4-week resilience intervention that was not a class for which a student could register. While their intervention was found to reduce stress, not being a part of students' existing workload may exclude students who are unable to manage the added effort needed to access the intervention (Steinhardt & Dolbier, 2008). Several barriers arise when resources or interventions are not embedded into the regular school routine (i.e., as in the form of a class). Lack of time, stigma attached to mental illness and help-seeking, and lack of awareness of resources have all been found to impede seeking mental health supports on college campuses (Corrigan et al., 2000; Yorgasen et al., 2008). By making a class available to students wherein the content can support wellness, each of these barriers can be reduced if not entirely circumvented.

Research Question 2: Perceived Capacity to Experience Resilience

Findings for this question were mixed. From pre-test to post-test, the treatment group reported changes that were significantly higher than those reported by the control group. However, the comparison of post-test scores showed no significant difference between the two groups. Potential reasons for a nonsignificant difference in post-test scores include those of a statistical nature as well as of a conceptual nature. Previous research of universal prevention

resilience interventions has identified difficulty in detecting statistical differences in change that occur in relatively healthy samples (Conley, Travers et al., 2013). Even with stable psychological constructs, the sensitivity of the BRS may be insufficient for detecting the degree and type of change that occurs from this type of intervention among a generally healthy population.

A second potential reason for nonsignificant results may be the BRS as a measure of detecting changes in resilience in response to intervention. The BRS largely targets perceptions of individuals regarding how readily they can recover from the impact of stressors, rather than determining whether an individual has specific skills that can support outcomes of resilience (Smith et al., 2008). The THRIVE curriculum does not emphasize resilience as a readiness to rebound from adversity, but rather as developing skills for the next potential situation/stressor.

This may account for the BRS being a poor fit for detecting changes in perceived resilience among students who took the THRIVE class compared to those who did not. A third explanation may be that the THRIVE resilience curriculum is insufficient for fostering a great enough change to be detected in a group of generally healthy participants exposed to it compared to a healthy group not exposed to it. In this way, there was perhaps a ceiling effect that governed the degree of change needed to detect an effect between the two groups. Despite the mixed findings for this question, the changes score comparison reported an effect size that was moderate ($d = .36$).

Given the increased exposure to stressors when attending college, having and developing effective skills to minimize the detrimental impact of these stressors is important. Findings were suggestive that the THRIVE curriculum could support students to increase their capacity to readily bounce back from adversity. Future research should continue to explore whether interventions like THRIVE provide a buffering or protective effect against typical college stressors. Stress has an additive quality wherein failure to manage the buildup of stress can lead

to the negative outcomes associated with mental health (Anisman, 2015; Bettis et al., 2017; Grant et al., 2003). In addition, the ability to recover quickly from stressful situations/episodes reduces the likelihood of long-term negative impact that can derail college student success, or even precipitate college dropout (Bettis et al., 2017; Hartley, 2012; NSCRC, 2014). Still further, by bouncing back quickly from a stressor, individuals reduce the amount of time they are amidst distress and therefore reduce the chances of making decisions driven by emotional dysregulation. Frequently emotionally charged decisions make matters worse and can result in maladaptive coping strategies such as self-medicating, self-harm and attempting suicide (Linehan, 2015)

Research Question 3: Satisfaction with Life

Findings from this question revealed significant increases in satisfaction with life from pre-test to post-test among the treatment group compared to the control group. Furthermore, post-test scores showed that the treatment group had significantly higher satisfaction with life than the control group. This finding is consistent with previous research that shows improvements in satisfaction with life among undergraduates (Conley, Travers et al., 2013). Given the research demonstrating the importance to not only mitigate negative indicators associated with mental health, but also to promote positive indicators of wellbeing, this finding is promising for the potential of the THRIVE curriculum to produce both reductions in problems and gains in wellbeing (Antaramian et al., 2010; Lyons et al., 2013; Suldo & Shaffer, 2008).

In general, satisfaction with life is considered a key indicator of mental health and determinant of happiness (Deiner & Chan, 2011; Maher et al., 2013; Pavot & Diener, 2008). Satisfaction with life has been associated with a range of positive outcomes that include financial success, mental health, and academic achievement among others (Proctor, Linley & Maltby, 2009). Additionally, life satisfaction has been strongly negatively associated with depression,

considering and planning suicide and attempted suicide (Proctor et al., 2009; Valois, Zullig, Huebner & Drane, 2004).

The outcomes associated with life satisfaction are well-suited as desired outcomes for everyone, but have particular salience for young people transitioning into career or college life. As emerging adults (18-25), those in this phase of adult development are especially at risk (Maher et al., 2013; Stone, Schwartz, Broderick & Deaton, 2010). Research has identified this developmental period as one wherein ratings of personal global wellbeing worsen the most. This suggests a considerable need to increase satisfaction with life given its role as an indicator of subjective wellbeing (Maher et al., 2013; Pavot & Diener, 2008; Stone et al., 2010). In light of this developmental vulnerability, these findings are encouraging as the THRIVE curriculum may represent a proactive approach to enhance college students' satisfaction with life and therefore their subjective wellbeing.

Quantitative summary.

A similar finding across the three research questions is that students can attain favorable outcomes related to the three independent variables as a result of being exposed to the THRIVE curriculum. Although caution is urged due to non-causality, the findings are fairly consistent with the hypotheses that guided the questions for this study. The findings associated with the treatment group's reductions in perceived stress, increased perceptions of their capacity to experience resilience, and their satisfaction with life are promising. Given the potential of this curriculum to promote positive changes in the lives of those who receive it, learning of its acceptability and appropriateness were important factors in understanding the elements that were best received and considered the most relevant to students' lives. These two concepts, acceptability and appropriateness, will be discussed below.

Research Question 4 and Question 5: Acceptability and Appropriateness

Research questions 4 and 5 will be discussed together. The study results showed that the THRIVE participants regarded the overall curriculum as both acceptable and appropriate. With over 90% of all responses across lessons indicating the curriculum's acceptability (546 of 600). Similar findings regarding appropriateness of the THRIVE curriculum as being relevant to participants' lives was reported at the 99% level. Combined, these findings are especially promising given the importance of acceptability and appropriateness to the adoption of intervention practices (Davis, 1993; Proctor et al., 2011).

It is important to note that while the collective of lessons was considered largely acceptable and almost unanimously appropriate, some lessons were considered more acceptable and more appropriate than others. Regarding acceptability, students found both the Managing Intense Negative Emotions (MINE) and REFRESHER lessons, the most acceptable (98%). A possible explanation for this finding for MINE is how common it is for college-age students to experience distressing emotions. Experiencing intense negative emotions often leads to problematic behavior that can exacerbate situations (Linehan, 2015). Thus, learning skills that enable them to better regulate these unwanted experiences may be of high importance to students. The contrast between emotionally reacting to a situation—thereby making it worse—and being able to manage intense emotions and actually reduce suffering, can have a potent effect on how valuable a skill perceived. One logical reason why RERESHERS was rated as highly acceptable is the menu of options students could choose from to integrate into their daily activities and routines.

There were three lessons that received 100% affirmative responses regarding appropriateness: Practicing Gratitude, MINE and REFRESHERs. Practicing gratitude may have

been identified as one of the most appropriate lessons because of how beneficial practicing gratitude can be. In contrast to experiencing seemingly chronic stress, practicing gratitude orients students to the good things they have in their lives that are obvious and perhaps taken for granted. By orienting students to the often-overlooked aspects of their lives that they can be grateful for, students attain a degree of perspective for things that they have, sometimes in comparison to how things would be if they did not have these things.

The other two highest rated lessons for appropriateness were MINE and REFRESHERs. It is possible that the same reasons that the lessons were considered acceptable mentioned in the paragraph above apply to their being identified as appropriate. Specific to REFRESHERs, students described this lesson as facilitating stress management, helping to maintain balance, and supporting success in academics. The REFRESHER lesson is broad and covers many facets that may have contributed to the high degree of appropriateness. For example, REFRESHER includes supportive biological functioning (e.g., eating well, exercising, sufficient sleep) as well as interpersonal and *intrapersonal* functioning (e.g., relationships, helping others, earth, reason).

In contrast, there were also lessons that were considered less acceptable and appropriate. The lesson considered least acceptable was Practicing Gratitude, with 74% of responses affirming acceptability, while the lesson considered least appropriate, relatively, was Sense of Purpose (96%). For both lessons, they serve as good places to start with regard to strengthening the THRIVE curriculum. In particular, student sentiments about the Practicing Gratitude lesson communicated that what may have undermined its acceptability is a difficulty identifying things to be grateful for when they were in a negative space or mood. Going forward, perhaps changing the sequence of the lessons may be of benefit. Currently, Practicing Gratitude comes before the lesson focused on cognitive reframing, or, Flipping the Script. It may be that the skill of

cognitive reframing serves as foundational to practicing gratitude when in a negative mood or amidst negative or challenging circumstances. First equipping individuals with the skill of cognitive reframing may result in greater lesson acceptability for Practicing Gratitude.

Implications for Research and Practice

The findings from the present study have several important implications for research and practice. First, the THRIVE curriculum shows promise as a viable means to support the development of resilience skills, reductions in perceived stress, and increases in satisfaction with life. Thus, utilizing this curriculum as a for-credit class suggests its viability as a universal intervention embedded in a broader system to support mental health and wellness. Research has shown that drawing on a MTSS framework addresses the mental health needs at a system-wide level (Cook et al., 2010) and can be used as a proactive means in supporting wellness across the tiers. The THRIVE curriculum offers the potential to serve across the tiers, and especially at the universal level, in supporting wellness and enhancing resilience campus-wide. Given the findings that existing resources on college campuses are insufficient and underutilized, implementing universal prevention interventions that support students' capacity for experiencing resilience could prove to be a dramatic improvement in increasing mental health and wellness of students campus-wide (Blanco et al., 2008; Conley, Travers et al., 2013; Cook, 2007; Corrigan et al., 2000; Eisenberg et al., 2012; McDonald, Pritchard & Landrum, 2006; National Alliance of Mental Illness (NAMI), 2004; Yorgason, 2008).

The second implication of this study is structural. By using a for-credit class as the means for delivery, a greater breadth of relevant concepts can be addressed. Steinhardt & Dolbier (2008) covered four general topics: a) transforming stress into resilience, b) taking responsibility, c) focusing on empowering interpretations, and d) creating meaningful connections in the form

of 4 two-hour weekly sessions. In contrast, the THRIVE curriculum incorporates nine lessons of content with eight of them inclusive of practices that can be applied. These lessons included concepts of mindfulness, self-regulation and willpower, cognitive reframing, strategies for cultivating resilient relationships and an approach for engaging in lifestyle changes for optimal mood function. Drawing on a course-for-credit format allows for concepts introduced from week one to emerge multiple times across the term and for greater repetition of skill use than could be accomplished in a shorter workshop or intervention (e.g., Steinhardt & Dolbier).

A second way the structure of a class has implications is in the way it reduces barriers. Researchers called for supports to leverage existing access points and take advantage of a captive audience that are undergraduates (Kazdin, 2008). By utilizing a class as an access point, the barriers associated with a lack of time, the stigma of mental illness/seeking help, and not being able to access resources because of insurance or other costs is drastically reduced (Corrigan et al., 2000; Yorgasen et al., 2008). Even better, by providing an upstream approach that provides young people with tools to support their wellness before succumbing to inevitable stressors, the need for more intensive resources would hopefully drop significantly. This not only benefits students, but also college counselors and existing campus resources that are reporting increased strains on their services (Hartley, 2012; McDonald et al., 2006). Instead of finding themselves in unmanageable emotional distress in the face of stressors, students can deploy resilience skills and strategies that can serve the buffering effect of protective factors and the compensatory effect of promotive factors developed through a class such as THRIVE.

The third implication highlights the potential of the THRIVE curriculum to promote wellness beyond reducing illness. The Dual Factor Model of mental health has shown that simply being absent of symptoms of mental illness does not equate to wellness (Suldo & Shaffer,

2008). Therefore, providing strategic means and interventions that promote wellness has the potential to offset ongoing mental health issues and stressors while reducing potential issues from emerging among those in the Dissatisfied/Vulnerable quadrant in the DFM of mental health. Incorporating such an approach carries with it the benefits of a universal prevention intervention that can be a part of a MTSS as well as promote the wellness factors that account for the DFM of mental health.

The fourth implication is the potential for decreasing mental illness and occurrences of death by suicide campus-wide and beyond. As previously cited in the review of the literature, roughly 1/3 of students have reported their academics were impacted (e.g., lower grade on an exam or project, incomplete or dropped course, or significant disruption on a major written work) by stress and roughly 1/4 reported academic impacts due to anxiety (ACHA, 2016). Roughly 94% of college students who seriously considered death by suicide reported feelings of hopelessness and roughly 33% of college students who reported feeling depressed to the point of having difficulty functioning seriously considered suicide (Kisch et al., 2005). These figures provide evidence for how imperative reaching out and supporting young people who may be at risk is to their overall well-being. By proactively fostering mental health and wellness through a universal intervention, institutions can make great strides toward that end.

A fifth implication involves student retention. The present findings suggest that the THRIVE curriculum has a potential benefit to student retention. As discussed earlier, millions of students who begin their journey toward earning a college degree are unable to reach that goal because of the rigors and stressors they encounter (Kessler, Foster, Saunders & Tang, 1995). By teaching young people ways to manage their stress and develop proactive strategies that enable their adaptation and perseverance, a class like the THRIVE curriculum has the potential to better

ensure degree completion. This outcome is not limited to undergraduate students, and may be equally beneficial to graduate students as well. Not only does such an outcome help students reach their goals and support their achievement of professional aspirations, the benefits also extend to their institutions that invest in the admitted students. Student attrition is an expensive part of university costs; billions of dollars are lost on account of student attrition (Raisman, 2013). By developing proactive means to support student success and retention, institutions of higher education can also improve their bottom line and find other ways to support their students and strengthen the institution overall.

Limitations

There are several important limitations regarding the findings from the present study. First, this study was exploratory and intended to determine the potential promise for the THRIVE curriculum. Thus, the results are based on a small sample of participants, which did not allow for statistical power to detect moderating effects. Further, due to the Type I nature of the study, its purpose was to learn more about the necessary refinements required to make the course suitable for more rigorous examination, such as through randomized controlled trials, and for implementation. Because of this focus, the results of the present investigation are constrained.

Second, the statistical analyses may be confounded by the nested nature of students within classrooms. A statistical analysis that analyzes multi-level data, such as HLM, may have been a better fit, however the sample size was too small to do so. Employing multilevel modeling is not recommended with so few units of analysis at the classroom level (Woltman, Feldstain, MacKay, & Rocchi, 2012).

A third limitation pertains to external validity, that the self-selected nature of choosing a resilience class may not represent a general student population. It is possible that students who

chose to participate in a resilience class were particularly welcoming of skills and strategies for experiencing resilience. If such a class became a requirement, its effectiveness may be diminished by students with greater skepticism who are forced to take a class they do not believe in.

Another aspect of the present study related to limits on external validity is the sample population. The composition of the classes that served as the intervention group included a high proportion of student-athletes. As such, the results may not represent the make-up of a normal class composition. Student-athletes have been reported to have greater risk for mental distress due to a range of factors than non-student-athletes (Barnard, 2016). Due to this difference among student-athletes, who make up such a large percentage of the sample group, the results may not be representative of the general population. For instance, if student-athletes experience higher levels of distress than non-student-athletes, there may have been a greater potential for changes from pre- to post-test. Differences such as these among the treatment group limit the external validity of the present study findings.

A fourth limitation, is the use of perceptual measures. There were no forms of data collection that provided an actual assessment of skill and concept use; therefore, perceptual gains may not equate to actual behavior change. Further assessment of skills and integration of strategies is suggested in follow-up research.

A fifth limitation is related to measurement, the lack of quantitative measures for determining acceptability and appropriateness. Thus, the findings are limited to frequency counts as opposed to a more quantifiable approach. Similarly, the resilience scale, the Brief Resilience Scale, is limited in its narrow focus of resilience in how readily one recovers from adversity. This is a limited view of resilience and neglects to consider the development of internal and

external resources that support the experience of resilience. Going forward, a more strength-based and perhaps dynamic scale that addresses one's inventory of accessible skills, strategies, and resources that support the experience of resilience is better suited to capturing changes in personal resilience resulting from THRIVE.

A sixth limitation pertains to study participants and the lack of demographic data. As mentioned previously, this class and the control classes were comprised with a high percentage of students-athletes. A concern of the athletics department was maintaining the anonymity of student-athletes given their heightened visibility on college campus. As such including any identifying information beyond whether a student was a student-athlete was not obtained.

The final limitation of the present study is attributable to the inexperience of the class instructor with the THRIVE curriculum. Given that this was the first time the THRIVE curriculum was taught, it is thought that with the instructor's increased familiarity with the content and modifications based on student feedback, even larger effects could be possible.

Future Directions

This study was conducted to determine the viability and potential benefits of a universal resilience curriculum that can be delivered to college students in the form of a for-credit course. The broader point was to identify ways to be preventive in the effort to meet the needs of college students' mental health and wellness. In using this lens, there are several strategies based on the results of this study that could be incorporated on college campuses going forward. One strategy going forward is to glean a deeper understanding of the mechanisms that students consider to be instrumental in the effectiveness of the THRIVE curriculum. For instance, no data was gathered regarding the format of the class overall. For example, the incorporation of family groups was included in the class structure to foster additional and deeper connections to and within the

course, yet there was no data collected on this component structure. Thus, a components analysis may offer additional information in how to make the class more effective.

Second, this exploratory study needs to be replicated and with a larger sample size to allow for more sophisticated statistical analyses. This replication study could also obtain more baseline information regarding students' predispositions in helping to understand who the curriculum may benefit and who not. Recent research has identified that individuals' beliefs about the effectiveness of an intervention can influence whether they implement that intervention, or practice, with fidelity (Cook, Lyon, Kubergovic, Wright & Zhang, 2015).

Third, placing additional focus on fostering supportive beliefs regarding THRIVE curriculum practices, an emphasis should not be placed on reducing stress, but instead it should be on changing students' relationship with stress (Crum, Salovey & Achor, 2013). Crum and colleagues (2013) reported compelling findings about the value of stress when viewed with the right mindset. In particular, stress has been shown to have an enhancing effect in some circumstances, therefore striving to foster a healthy stress mindset among students could have bountiful benefits given the heightened exposure to stressors inherent in attending institutions of higher education.

Two final recommendations for future research are somewhat intertwined. Given the two time-points for data collection, the present study failed to detect whether the changes were lasting. As such, future research would benefit from a longitudinal design that allows for detecting whether the benefits of the THRIVE curriculum were long-term. Such additional insight could be part of a greater effort to design studies that allow for the THRIVE curriculum to be developed in line with next steps according to the Translational Spectrum Model (Fishbein et al., 2016). This leads to the second of the final recommendations. Currently, the THRIVE

curriculum is considered a Type 1 translation study. This is because it is in a pilot phase and not yet ready for efficacy trials. With the current feedback regarding acceptability and appropriateness, as well as understanding the limitations of measures from the present study, future research on the THRIVE curriculum could draw on random sampling and a larger sample size to progress to the next stage of the Translational Spectrum Model.

Conclusion

There are many college students who do not reach the educational potential—and thus their vocational potential—due to their mental health and inability to manage stress successfully. Such inabilities have short and long-term implications. This exploratory study provided promising evidence of a universal resilience intervention that can minimize the negative affect stress and psychological struggles impeding student success. The results from this study demonstrated the potential of using a universal level intervention to effect positive change among those exposed to it.

The importance of these findings is that a resilience curriculum, such as THRIVE, disseminated at a universal level can reach many thousands of students because of the logistical nature of it and its means of delivery as a class. With further refinement and more rigorous efficacy trials, the THRIVE resilience curriculum has the potential to become a replicable intervention that can be adopted in different fields of study throughout a given institution. Such replicability allows for the THRIVE resilience curriculum to be embraced by any institution of higher learning to support the wellness and success of its students and community at large. The potential magnitude of shift that could result from an entire university community experiencing reduced perceived stress, increased perceived capacity to experience resilience, and increased satisfaction with life is substantial. Not only would the wellness of the community at-large be

vastly improved, but also productivity and academic achievement would be improved. Furthermore, the THRIVE resilience curriculum lends itself to developing the whole person. A singular focus on academic achievement can potentially result in ignoring or missing the passive—yet important—experiences that arise during college (e.g., socializing, self-discovery and reflection, experimentation). Focusing on content retention and practice in a class that delivers the THRIVE curriculum promotes the development of protective factors and resilience skills and encourages engaging skill practices that include experiences such as fun, relaxation, socializing and exercising. These are focuses that contribute to the entire person with academic achievement as a byproduct and that translate to life beyond college. Such skills will allow for interpersonal, intrapersonal, psychological, and emotional wellness—all by making use of something already available, classes. Given the findings from the present study and its feasible reach, the THRIVE resilience curriculum has the potential to save lives, promote wellness and shift entire communities toward having more positive experiences.

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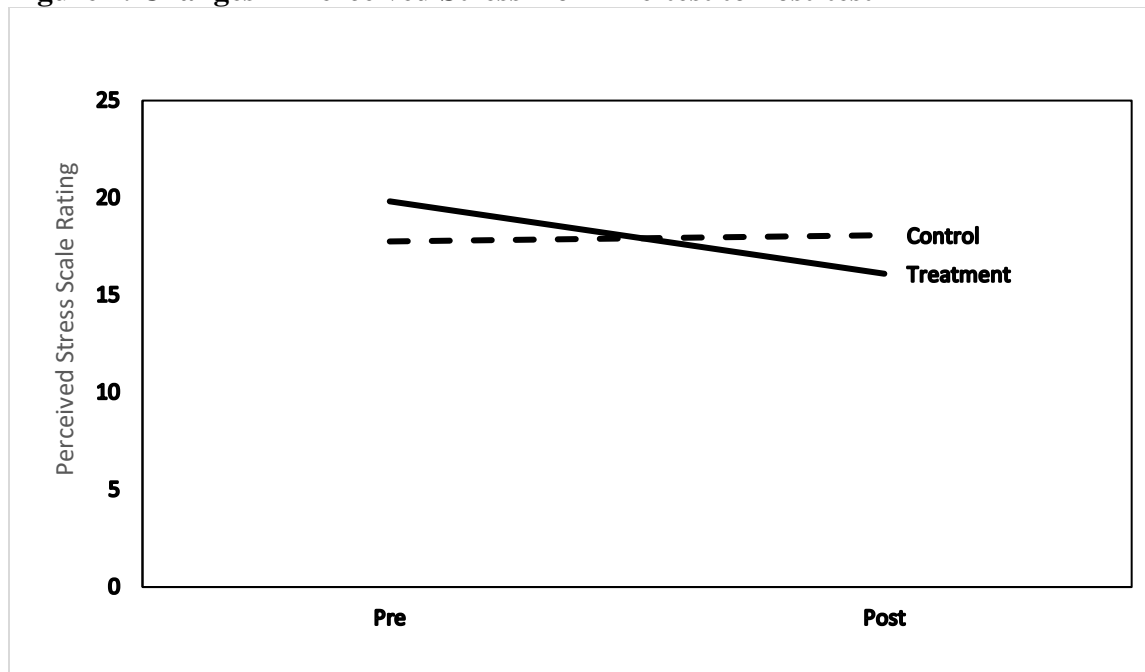
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Appendices

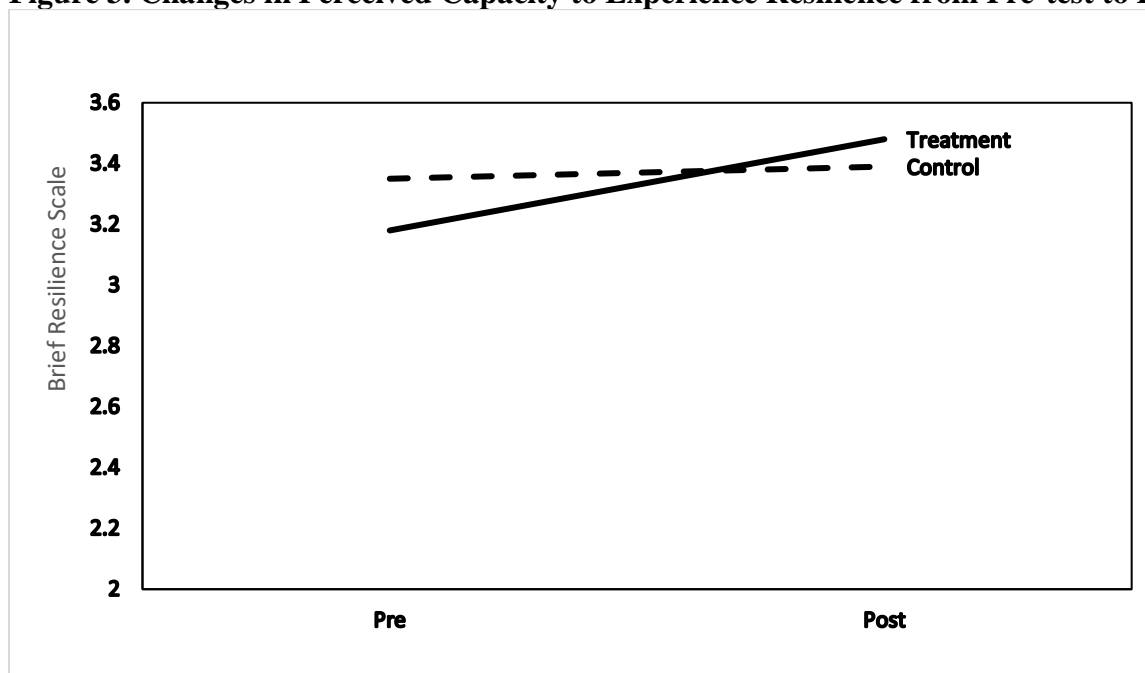
Appendix A

Figure 2. Changes in Perceived Stress from Pre-test to Post-test



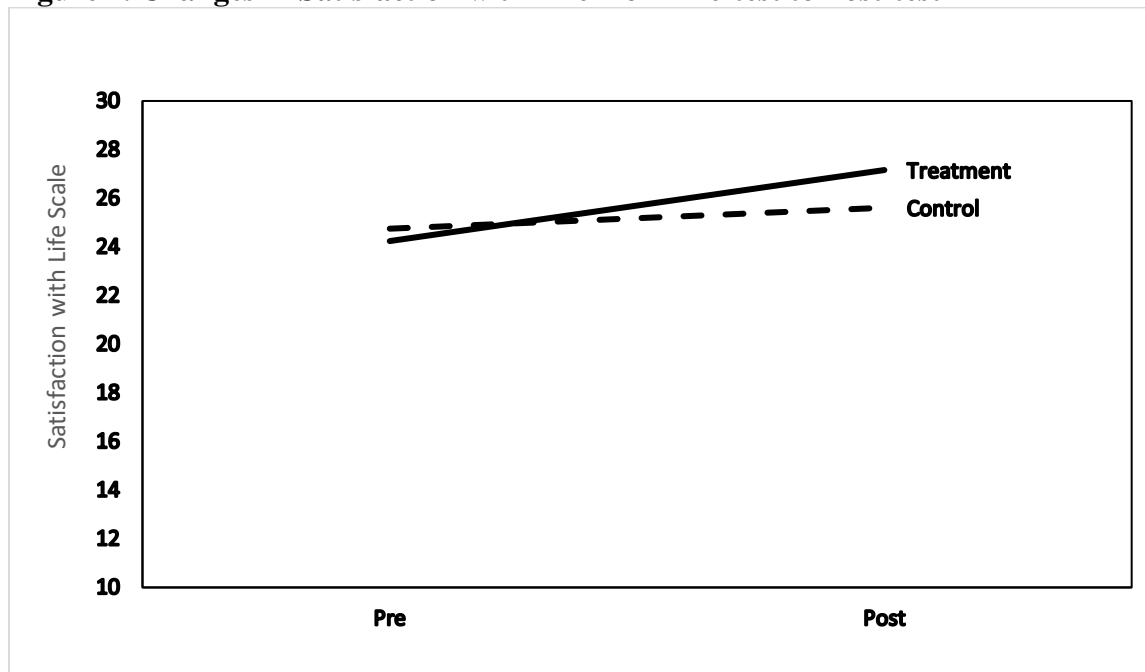
Appendix B

Figure 3. Changes in Perceived Capacity to Experience Resilience from Pre-test to Post-test



Appendix C

Figure 4. Changes in Satisfaction with Life from Pre-test to Post-test



Appendix D

Table 4. Acceptability Frequencies and Examples

THRIVE Lessons	% Affirming Acceptability	Acceptability Example
Sense of Purpose	95% (35 of 37)	<p>Identifying my values and goals went very well. It felt like a breath of fresh air to revisit them and clearly lay them out.</p> <p>It has been helpful to identify a sense of purpose and long term goals to keep in mind to motivate myself to do things I would rather put off. I felt more motivated and relieved after finishing a challenging task that I would have otherwise avoided as long as possible.</p> <p>I thoroughly enjoyed the exercise about sense of purpose this week. It helped me by identifying that my values and goals have evolved over the last 12 months. It provided a clearer scope for what it actually important to me. Since doing the exercise I have noticed a sharper focus and increased motivation...</p>
Willpower	90% (52 of 58)	<p>This week, I know for a fact that I turned down many of the extra calories that stared my down in so many different places. Gosh darn, it wasn't that hard though, because I really do want to cut</p>

those things out of my diet. Just being aware to be aware is effective.

Exercising my willpower had helped me a lot this week. I have been working hard off the court and it has translated into my tennis game. I feel more confident on the court knowing that I have trained hard and it takes a bit of stress off my back.

This week I tried really hard to eat healthy and not procrastinate with my school work. This helped me feel way less stress free because my body felt so much better, and getting my work done on time made me stress less because my work was already done!

Mindfulness 94% (91 of 97)

It went great. Something that I started noticing that I do is taking some mindful time before a test. I used to just go to it over-caffeinated and stressed, but now taking some time helped me focus way better.

Practicing mindfulness has gone great for me this week. One stressful time that this comes in handy is right before a workout. I usually take a mindful S.T.O.P right before workouts just to clear my mind before starting. By doing that, I'm a lot looser and happier, instead of being so uptight because I don't like to work out.

I enjoyed being mindful this week. I usually enjoy "people-watching", but being mindful made me really notice the environment and people around me. I noticed in a couple instances when I got frustrated with life, I realized how the stressors really were either neutral, impossible to solve at the moment, or within reason to solve, so I did not have an excuse to be upset.

Practicing Gratitude 74% (75 of 101)

Practicing gratitude went good this week. I practiced gratitude through using thank you notes and being at Awe in the moment. I noticed that I became a bit happier and was able to cope with stress easier.

Practicing gratitude went well. I used a gratitude journal and tried to think of things that I was thankful for. It was easier to think of things that I was grateful for if by thinking of how I would feel without those things. I noticed that I was happier because I was thinking about the things that made me happy and what I was thankful for. It improved my stress level.

Practicing gratitude went great it helped me realize everything i have little or small i have alot of great things going on in my life.

Flipping the Script 92% (83 of 90)

Flipping the script went great for me. It was crazy to see how my mood could change just by turning a negative thought in my mind to a positive one.

Flipping the script helped me to be more optimistic, and not only myself but help others to be optimistic by creating the environment positive. It was very helpful to see the lesson or positives in every stressful situation.

Flipping the switch has really helped me this week. It helps me realize even though one aspect could be bad there are more aspects in my life that are good.

Managing Intense Negative Emotions 98% (82 of 84) This week was very successful for me when it came to managing my intense emotions. I noticed that I was all around in a better mood and that I had a few meaningful conversations that helped me to deal with stress.

This week I engaged in other sensations if I got upset. I'd try to feel the temperature differences or I'd listen to my environment. It helped me not get as sucked in to the negativity. It helped me when I was communicating with others about conflict.

It was interesting to identify emotional triggers from the week that would upset me. In identifying the triggers, I was able to see how foolish my anger was and let it go in a smooth manner.

Resilient Relationships 94% (46 of 49) Social support is something that I feel so blessed to have, and I feel like I have so much of it. Identifying these people really just put me in a great place because it allowed me to realize how lucky I am to have all of these great people in my life.

Identifying social supports actually really helped me take time to reflect on my life and how lucky I am to have the people I have in it. So it went pretty well. Every once in awhile, I can get kind of lonely but then if I stop and think about it, I really do have a whole network of people who care about me. It makes me feel really grateful, and does improve my mood.

I felt like identifying social support went good because it showed who I can lean on when times are hard. It helped me to think about who's by my sides and who's not. I noticed I was in a good mood.

REFRESHER 98% (82 of 84) Reflection went well for me this week I noticed that I felt a lot more in the moment rather than having my head in the clouds

I tried to think of all the REFRESHER and tried to follow those and those definitely helped me to be calm and live better. For example, I tried to do more exercise.

Overall, using the some of the REFRESHER(s) went well for me this week. In terms of benefits in my mood, I did notice less anxiety from final project presentations and less stress as a whole.

Appendix E

Table 5. Appropriateness Frequencies and Examples

THRIVE Lessons	% Affirming Acceptability	Appropriateness Example
Sense of Purpose	96% (31 of 32)	<p>Identifying a sense of purpose helps you focus on what's important and work and perfecting your values and trying to meet the goals you set. I believe thinking about your values and goals more make it easier to remember whats important in your life and make it easier to meet your goals.</p> <p>Once I realize my sense of purpose, I have more motivation to work hard and study hard. And it help me deal with my stress and mood because I know how to go through these stresses and deal with the difficulties in my life to achieve the sense of purpose.</p> <p>Identifying a sense of purpose allows me to be introspective and reflective. When I take time to assess the things I need to work and improve on, it allows me to make steps in bettering myself. For example, when I realize that I need to be saying 'no' more to people, it motivates me to take care of myself more.</p>
Willpower	97% (68 of 70)	<p>By excising willpower I will have better control over the distractions in my life. For example when I chose not to be on my phone, I can engage in meaningful conversations and hopefully help that person in some shape or form.</p> <p>I feel that practicing will power can affect your life immensely. By practicing it, you will have better control over your life because you will be able to think about things before doing them. You will be more conscious about what choices you are taking and actions you are making.</p> <p>Based on my own experience, I think exercising willpower will help me in life simply by knowing that I have the power to control what I can and cannot do. For example, instead of going out with friends last Saturday night, I made the decision to stay at home and study for all my classes.</p>
Mindfulness	99% (99 of 100)	<p>By practicing mindfulness, it can help my life tremendously. I feel like I will be able to tackle stress so much easier and have better relationships with the people that mean the most to me because I will be calm.</p>

Practicing mindfulness can help me in my life by creating self-awareness and concentration in the environment I'm regularly in. Implementing new strategies about mindfulness can definitely teach me skillful way to respond to difficult situations.

I think practicing mindfulness allowed me to perform better in the thing I was doing at that moment because I wasn't thinking about the future but the now. I feel like it will overall help me with my stress and help me notice the important things at each specific moment in time.

Practicing
Gratitude

100% (95 of 95)

In my experience, I just feel that I notice and appreciate more of every day gifts. I don't really pay attention to negative thoughts in my head, and my mind is just less crowded with unnecessary thoughts.

I think practicing gratitude will really help me remember the things that make me happy which will lead to less stress and unhappiness.

I think that practicing gratitude can really help with happiness and mood, it can be really easy to believe that our problems are the worst in the world but being aware and grateful of what we have can keep us from feeling like that.

Flipping the
Script

99% (92 of 93)

It will benefit me not only with dealing with stress but also in social relationship with others. When I meet someone who has characteristic that I don't like, the flipping script habit will help me and find the good character or benefit of the character that I don't like.

I think that flipping the script will help me to maintain a positive outlook in life. Remaining positive will in turn help to keep me from allowing negative thoughts to drain my energy.

i think that flipping the script can help me to have a better mood and be more happy more often.

Managing
Intense Negative
Emotions

100% (90 of 90)

Managing intense emotions is really going to help me stay out of "funks" that I have. I really let things drag down other areas of my life. However, I'm going to manage those emotions and be able to not only be more persistent when I hit walls in my life, but also be more mentally tough.

I will be better able to stay positive. In future discussions with my mother, hopefully I will be able to finish them and then de-stress through the ACCEPTS.

By managing intense emotions, I will be able to think before I act. For example, if I get frustrated at someone, by managing my emotions, I will be able to think before I react in a negative way.

Resilient Relationships 98% (47 of 48) I think it can make a difference in my life because I'll be able to focus on them and maintaining a healthy relationship for the both of us. It'd also help to remind myself that I do have support and people care about me if I lose track of myself.

I think this makes a difference in life overall because it allows us to remember that we are never alone. We have all of these amazing people who really do care about us.

Identifying social supports will help people recognize that they aren't alone and they can go and seek help if they need it. Also it is reassuring to know that you have people that will back you up and show you they care.

REFRESHER 100% (77 of 77) I think if I develop a healthy balance between work and time for refreshers it could help me feel more at peace with my inner self.

REFRESHERs can definitely help me with my academics. It can get so stressful to stay on top of or ahead of deadlines, but it is important to take time for yourself in order to function most effectively in other areas of your life, particularly as a student.

REFRESHERs will help me to be more aware of how I live my every day life; challenging me to be more well-rounded and healthy. For instance, focusing on exercise will help me to be physically active and give my body strength.

Appendix F

Table 6. Definition and illustration of key concepts (adapted from Wright et al., 2013)

Term	Definition	Examples
Adversity	Disturbances to the function or viability of a system; experiences that threaten adaptation or development	Poverty; homelessness; child maltreatment; political conflict; disaster
Resilience	Positive adaptation in the face of risk or adversity; capacity of a dynamic system to withstand or recover from disturbance	Child from violent family does well in school, has friends, behaves well, and gets along well with teachers; earthquake survivor recovers to normal function and development
Risk	An elevated probability of an undesirable outcome	The odds of developing schizophrenia are higher in groups of people who have a biological parent with this disorder.
Risk factor	A measurable characteristic in a group of individuals or their situation that predicts a negative outcome on a specific outcome criteria	Premature birth; parental divorce; poverty; parental mental illness; child maltreatment
Cumulative risk	Increased risk due to: (a) the presence of multiple risk factors; (b) multiple occurrences of the same risk factor; or (c) the accumulating effects of ongoing adversity	Children in homeless families often have many risk factors for developmental problems, including a single parent who hasn't graduated from high school, a history of poor health care, poor schooling, inadequate nutrition, and exposure to many negative events, such as family or community violence

Vulnerability	Individual (or system) susceptibility to undesirable outcomes; the diathesis in diathesis-stressor models of psychopathology	Anxious children find school transitions more stressful; compromised immune function increases susceptibility to infectious diseases
Proximal risk	Risk factors experienced directly by the child	Witnessing violence; associating with delinquent peers
Distal risk	Risk arising from a child's ecological context but mediated through more proximal processes	High community crime rate; inaccessible health care; recession
Asset, resource, or compensatory or promotive factor	A measurable characteristic in a group of individuals or their situation that predicts a positive or desirable outcome, similarly for low and high levels of risk	Cognitive skills; competent parenting; high social class
Protective factor	A predictor of better outcomes particularly in situations of risk or adversity	Airbags in automobiles; 911 services; neonatal intensive care; health insurance
Cumulative protection	The presence of multiple protective factors in an individual	A child in a poor neighborhood has attentive parents, a safe home, supportive kin, a school tutor, and connections to prosocial peers or community organizations
Psychological competence	Effectiveness or capabilities in the adaptive use of personal and contextual resources to accomplish age-appropriate developmental tasks	Active engagement of intellectual ability and positive relationships with teachers results in school success

Developmental tasks	Psychosocial milestones or accomplishments expected for people of different ages in a given historical or cultural context, often serving as criteria for judging how well a person is doing in life	Walking; talking; learning to read; developing friendships; following rules; taking care of one's children
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Appendix I

Teaching Health & Resilience for Intercollegiate Athletes' Vitality & Education

T.H.R.I.V.E. STUDY



T.H.R.I.V.E. STUDY CONSENT FORM

Student-Athlete Resilience

We are asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the purpose of the research, what we would ask you to do, the possible risks and benefits, your rights as a volunteer in research, and anything else about the research or this form that is not clear. When we have answered all your questions, you can decide if you want to be in the study or not. This process is called "informed consent." We will give you a copy of this form for your records.

PURPOSE OF THE STUDY

The purpose of the research is to determine effective ways of promoting overall resilience and well-being among student-athletes. One approach is to teach individuals research-based skills and strategies shown to support mental health and well-being and help cope with stressful circumstances and adversity overall. By teaching these skills to everyone (i.e.,

a universal-prevention intervention), whether they have demonstrated a need or not, ensures that all those exposed to these effective strategies will have a foundation of skills to navigate adverse circumstances with their mental health and well-being intact. To determine whether the teaching of these skills was effective, study participants will complete questionnaires which will be analyzed for research purposes as well as to inform revisions of course curriculum to optimize its effectiveness. The purpose of these questionnaires is to evaluate the effectiveness of the *Teaching Health and Resilience for Intercollegiate-athletes' Vitality and Education* (THRIVE) curriculum.

STUDY PROCEDURES

To determine program effectiveness, students enrolled in the THRIVE course will be asked to complete questionnaires at the beginning of the course, immediately upon completion of the course, and 6 weeks after completion of the course. The questionnaires will measure the presence of skills taught in the class and the acceptability and relevance of the course content as well as indicators of stress and well-being. Specifically, participants will be asked about their existing stressors, perceived level of stress, perceived life satisfaction, positive and negative feelings, and ability to be resilient in the face of adversity. The duration of completing the questionnaires are not likely to exceed 15-20 minutes. All responses are confidential.

Your completion of these questionnaires is a part of the class for purposes of optimizing the effectiveness of the THRIVE curriculum for student-athlete and non-student-athlete populations. The completion of the questionnaires is not part of the class. Participating in the research and allowing your data to be analyzed for the purposes of research and reporting the effectiveness of the THRIVE curriculum is voluntary and confidential. The most personal question may be to rate how much you experience positive feelings, whether you have experienced a particular stressor, such as having difficulty with a roommate(s), or how strongly you agree that you tend to bounce back quickly after hard times. You may refuse to answer any question or item in any questionnaire. The following outlines the data collection procedures:

1st Survey Completion

There will be 8 well-being outcome measures with 84 items. Once you complete the measures, your Study ID number will be eligible to be chosen at random for a \$25 gift certificate. Study ID numbers will be randomly selected via computer. The completion of all 8 well-being outcome measures should take no more than 15-20 minutes.

2nd Survey Completion

Approximately 10 weeks after the first survey you will be invited to take the survey again. There will be 8 well-being outcome measures with 84 items. Once you complete the measures, your Study ID number will be eligible to be chosen at random for a \$25 gift certificate. Study ID numbers will be randomly selected via computer. The completion of all 8 well-being outcome measures should take no more than 15-20 minutes.

3rd Survey Completion

Approximately 16 weeks after the first survey you will be invited to take the survey for the last time. There will be 8 well-being outcome measures with 84 items. Once you complete

the measures, your Study ID number will be eligible to be chosen at random for one of two \$50 gift certificates. Study ID numbers will be randomly selected via computer. The completion of all 8 well-being outcome measures should take no more than 15-20 minutes.

OTHER INFORMATION

To ensure your participation in the research is voluntary and there is no penalty or loss of benefit by refusing to participate, your enrollment in the course is independent of study participation. Each time you complete a survey you will be entered to win one of two \$50 gift cards. Therefore, if you complete the survey all three times it is offered, you will have three different chances to win a gift card.

BENEFITS OF THE STUDY

The anticipated benefits for the non-student-athletes and student-athletes who participate in the universal-prevention survey research is that they will develop skills to reduce the stress they experience and skills to increase their well-being as they navigate their collegiate experience on and off the field, and their life-experiences after college is over.

By establishing more effective mental health supports for non-student-athletes and student-athletes, subjects will improve the likelihood of being successful in their sport and non-sport endeavors. Given the potential for high levels of stress to undermine mental health and even induce disordered functioning, enhancing non-student-athletes' and student-athletes' ability to cope with stress has the potential to increase societal wellness and reduce the potential for societal risk or burden.

CONFIDENTIALITY OF RESEARCH INFORMATION

It is very important to us that you feel like you can express your opinions freely. Therefore, we ask that you *please do not put your name or any other identifying information in the survey*. Your name will be linked to the survey only through an identifying number. Your individual information is confidential and your responses will be kept in a locked room on a password protected computer. This data will be kept in this manner, for 3 years in accord with the Office of Human Research Protections, and then it will be destroyed on December of 2018. Data from this study may be integrated with future studies conducted on the future offerings of the same class. No participant identifying information will be retained. No specific course identifying information will be reported.

Government or university staff sometimes review studies such as this one to make sure they are being done safely and legally. If a review of this study takes place, your records may be examined. The reviewers will protect your privacy. The study records will not be used to put you at legal risk of harm.

HOW DO I PARTICIPATE IN THIS STUDY?

If you agree to participate, continue by hitting "Next" below to proceed into the Catalyst WebQ THRIVE Survey. You may email the researchers if you have any questions. The contact information for these members of the ■■■ project staff can be found at the top of the form. If you have questions about your rights as a participant, you can contact the ■■■ Human Subjects Division at (206) 543-0098.